Office-Supreme Court, U.S.
FILED
AUG 3 1984
ALEXANDER L. STEVAS,
CLERK

84-195 ①

No. ———

IN THE

Supreme Court of the United States

OCTOBER TERM, 1984

OHIO POWER COMPANY,
Petitioner,
v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
WILLIAM D. RUCKELSHAUS, ADMINISTRATOR,
Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

EDWARD BERLIN
Counsel of Record for Petitioner
FRANCIS S. BLAKE
SWIDLER, BERLIN & STRELOW,
CHARTERED
1000 Thomas Jefferson St., N.W.
Washington, D.C. 20007
(202) 342-5500

A. JOSEPH DOWD
JEFFREY P. WHITE
OHIO POWER COMPANY
E. DONALD ELLIOTT
Box 401A Yale Station
New Haven, Connecticut 06520
Of Counsel

WILSON - EPES PRINTING CO., INC. - 789-0096 - WASHINGTON, D.C. 20001

13499

QUESTION PRESENTED

May a court, which has held an administrative rule arbitrary and capricious, authorize an agency to limit its inquiry on remand to the "further study" of a single "issue," notwithstanding the mandate of the Administrative Procedure Act that agency action held to be arbitrary must be set aside and returned to the agency for repromulgation and the requirement of Article III of the Constitution that courts must review the agency action in controversy, not abstract issues?

PARTIES TO THE PROCEEDING BELOW

Parties before the Court of Appeals in addition to Petitioner and Respondents named in the caption of this case were Columbus & Southern Ohio Electric Company, Dayton Power & Light Company, Peabody Coal Company, and the Commonwealth of Pennsylvania.*

LIST OF PARENT COMPANIES, SUBSIDIARIES AND AFFILIATES

A listing of parent companies, subsidiaries and affiliates of Petitioner as required by Rule 28.1 of the Supreme Court Rules is as follows:

Petitioner Ohio Power Company is a subsidiary of American Electric Power Company, the affiliates and subsidiaries (other than wholly owned subsidiaries) of which are:

Appalachian Power Company
Cardinal Operating Company
Columbus & Southern Ohio Electric Company
Indiana Kentucky Electric Corporation
Ohio Valley Electric Corporation

---

* Additional parties appeared before the Court of Appeals in the initial proceeding leading to the remand of an "issue" to the agency (Shell Oil Co., Austin Powder Co. and E.I. duPont deNemours & Co.). Those parties were not involved in the decision leading to the final judgment at issue in this case.

TABLE OF CONTENTS

Page

OPINIONS BELOW 1

JURISDICTION 2

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED 2

STATEMENT OF THE CASE 2

REASONS FOR GRANTING THE PETITION 6

The Decisions Below Raise Important and Unsettled Questions of Administrative Law on Which There Is Conflict among the Lower Federal Courts 8

A. The Lower Court's Failure to Set Aside and Remand for Repromulgation Is Inconsistent with Congress's and this Court's Delineation of the Proper Relationship between Courts and Administrative Agencies 11

B. The Lower Court's Limitation of Judicial Review to the "Issue" Remanded to the Agency Is Inconsistent with the Proper Function of Judicial Review under Article III of the Constitution 16

CONCLUSION 18

APPENDIX:

Opinions of the Court of Appeals 1a

Decisions of the United States Environmental Protection Agency 28a

Judgments of the Court of Appeals 94a

Order of the Court of Appeals Denying Rehearing and Rehearing En Banc 98a

Constitutional and Statutory Provisions Involved 99a

TABLE OF AUTHORITIES

Cases: Page

Action on Smoking and Health v. CAB, 713 F.2d 795 (D.C. Cir. 1983) 7, 10
American Meat Institute v. EPA, 526 F.2d 442 (7th Cir. 1975) 7
Buckeye Power, Inc. v. EPA, 481 F.2d 162 (6th Cir. 1973), *cert. denied,* 425 U.S. 934 (1974) 12
Burlington Truck Lines v. United States, 371 U.S. 156 (1962) 15
California Cartage Co. v. United States, 721 F.2d 1199 (9th Cir. 1983) 7
Camp v. Pitts, 411 U.S. 135 (1973) 7-11
Central Power & Light Co. v. United States, 634 F.2d 137 (5th Cir. 1980) 7
Cincinnati Gas & Electric Co. v. EPA, 578 F.2d 660 (6th Cir. 1978), *cert. denied,* 439 U.S. 1114 (1979) 2, *passim*
Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402 (1972) 8-11
Cleveland Electric Illuminating Co. v. EPA, 572 F.2d 1150 (6th Cir. 1978), *cert. denied,* 439 U.S. 910 (1979) 3
Columbus & Southern Ohio Electric Co. v. Costle, 638 F.2d 910 (6th Cir. 1980) 5
EDF v. Costle, 657 F.2d 275 (D.C. Cir. 1981) 7
FCC v. Pottsville Broadcasting Co., 309 U.S. 134 (1940) 13, 17-18
FCC v. Schrieber, 381 U.S. 279 (1965) 13
Federal Radio Comm. v. General Electric Co., 281 U.S. 464 (1930) 17
FMC Corp. v. Train, 539 F.2d 973 (4th Cir. 1976) 7
Ford Motor Co. v. NLRB, 305 U.S. 364 (1939) 15
FPC v. Transcontinental Gas Pipe Line Corp., 423 U.S. 326 (1976) 9, 13
Harrison v. PPG Industries, Inc., 446 U.S. 578 (1980) 8-9
Montana-Dakota Utility Co. v. FERC, 631 F.2d 557 (8th Cir. 1980) 7
National Lime Assoc. v. EPA, 627 F.2d 416 (D.C. Cir. 1980) 12

TABLE OF AUTHORITIES—Continued

Page

NRDC v. EPA, 494 F.2d 519 (2d Cir. 1974) 7
Port Norris Express Co. v. ICC, 687 F.2d 803 (3rd Cir. 1982) 7
Public Power Council v. Johnson, 674 F.2d 791 (9th Cir. 1982) 9
Rogers v. Hill, 289 U.S. 582 (1933) 2
SEC v. Chenery, 332 U.S. 194 (1947) 14, 15
Tabor v. Joint Board for Enrollment of Actuaries, 566 F.2d 705 (D.C. Cir. 1977) 7
Valley Forge College v. Americans United for Separation of Church and State, 454 U.S. 464 (1982) 17
Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519 (1978) 11-13

Statutes and Regulations:

Administrative Procedure Act, 5 U.S.C. § 500 *et seq.*
  Section 10(e), 5 U.S.C. § 706 11-12
Clean Air Act, 42 U.S.C. § 7401 *et seq.*
  Section 109(b)(2), 42 U.S.C. § 7409(b)(2) 11
  Section 110(c), 42 U.S.C. § 7410(c) 3
  Section 165(e)(3)(d), 42 U.S.C. § 7475(e)(3)(d) 14
  Section 302(h), 42 U.S.C. § 7602(h) 11
  Section 307(d), 42 U.S.C. § 7607(d) 3, 12, 16
  Section 320, 42 U.S.C. § 7620 14
U.S. Constitution, Article III, Section 2 .... 10, 16-18

Miscellaneous:

EPA Promulgation of State Implementation Plan for the Control of Sulfur Dioxide for the State of Ohio (41 *Fed. Reg.* 36324 (August 27, 1976); 40 C.F.R. Part 52, Subpart KK, § 1881(b)(47)) 3
EPA's "Reconsideration of the Use of Pasquill-Gifford Dispersion Coefficients for Stability Class A in Setting Emission Limitations for Four Ohio Power Plants":

TABLE OF AUTHORITIES—Continued

	Page
Comments Solicited (44 Fed. Reg. 7798 (February 7, 1979))	4
Evaluation of Public Comments (45 Fed. Reg. 41501 (June 19, 1980))	4
Denial of Petitions for Reconsideration (45 Fed. Reg. 74041 (November 7, 1980))	4-5
Restart of Compliance Schedules (45 Fed. Reg. 73927 (November 7, 1980))	4
K. Davis, Administrative Law Treatise, §§ 7.1, 7.2 (1979)	14

IN THE
Supreme Court of the United States
OCTOBER TERM, 1984

No. ——

OHIO POWER COMPANY,
Petitioner,
v.
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,
WILLIAM D. RUCKELSHAUS, ADMINISTRATOR,
Respondents.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

Ohio Power Company petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Sixth Circuit in this case.

OPINIONS BELOW

The opinion of the Court of Appeals remanding an issue to the United States Environmental Protection Agency is reported at 578 F.2d 660 (Petitioner's Appendix at 9a-27a) (hereafter referred to as App.). The opinion of the Court of Appeals upholding the agency's action on remand is reported at 729 F.2d 1096. App. 1a-8a. The order of the Court of Appeals denying rehearing and rehearing en banc is reprinted at App. 98a. The decisions of the United States Environmental Protection Agency are reported at 45 *Fed. Reg.* 41501, 73927, 74041. App. 28a-93a.

JURISDICTION

The judgment of the Court of Appeals (App. 1a) was entered on March 22, 1984. Rehearing was denied on May 8, 1984. App. 98a. This petition is filed within 90 days of the date of denial of rehearing. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1). The decision of the Court of Appeals remanding an "issue" to the U.S. Environmental Protection Agency for "further study" was issued on June 29, 1978. Since that decision did not constitute a final judgment with respect to the controversy presented here, the decision is properly before the Court at this time under Rule 18 of the Supreme Court Rules; *see* 28 U.S.C. § 2101(e); *see also Rogers* v. *Hill,* 289 U.S. 582 (1933). Other aspects of the Court of Appeals' 1978 decision that were final are not at issue in this case. *See Cincinnati Gas & Electric Co.* v. *EPA,* 578 F.2d 660 (6th Cir. 1978), *cert. denied,* 439 U.S. 1114 (1979).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

The following constitutional and statutory provisions are involved in this case and are set out verbatim in the appendix, App. 99a-107a:

U.S. Constitution
    Article III, Section 2.

Administrative Procedure Act, 5 U.S.C. § 500 *et seq.,*
    Section 10(e), 5 U.S.C. § 706.

Clean Air Act, 42 U.S.C. § 7401 *et seq.,*
    Section 307(d), 42 U.S.C. § 7607(d).

STATEMENT OF THE CASE

This case involves Ohio Power Company's attempt to seek judicial review of the United States Environmental Protection Agency's (EPA's) action establishing an emission limitation for one of Ohio Power Company's powerplants. EPA promulgated the emission limitation at issue in 1976 pursuant to its authority under the Clean Air Act.[1]

Ohio Power Company first sought judicial review of the emission limitation following its promulgation in 1976. Ohio Power argued that the emission limit was arbitrary and capricious because the computer model EPA used in establishing the limit was not supported by the record in the rulemaking proceeding. In general, EPA uses computer models to predict the air quality impact of a plant's emissions and then, based on those predictions, establishes an emission limitation designed to ensure that the plant's emissions do not violate the National Ambient Air Quality Standards. *See generally, Cleveland Electric Illuminating Co.* v. *EPA*, 572 F.2d 1150, 1160 (6th Cir. 1978), *cert. denied*, 439 U.S. 910 (1979). In this case, Ohio Power contended that a critical set of assumptions (called the "Class A" coefficients") contained in EPA's computer model were in error and had been discredited by the scientific community.

The Court of Appeals for the Sixth Circuit, noting the scientific community's rejection of the Class A coefficients, held: "On this present record we conclude that United States EPA's employment of the Class A [coefficients] . . . is not a rational decision and is arbitrary and capricious." App. 16a.

---

[1] 41 *Fed. Reg.* 36324 (August 27, 1976); 40 C.F.R. Part 52, § 1881(b)(47) (1984). Under section 110(c) of the Clean Air Act (codified at that time in 42 U.S.C. § 1857c-5(c)), EPA promulgated a plan for control of sulfur dioxide emissions, including specific emission limitations for individual sources, for the State of Ohio. The Clean Air Act was substantially amended in 1977 and recodified at 42 U.S.C. § 7401 *et seq.* (Supp. 1979). The agency's authority to promulgate emission limitations was left intact by the 1977 amendments, *see* 42 U.S.C. § 7410(c), but the amendments did significantly expand the statutory procedures applicable to EPA's promulgation of an emission limit, *see id.*, § 7607(d).

Having found the agency's action arbitrary and capricious, the court then described its mandate to EPA:

> "Our ultimate action on this score is simply to remand this issue to United States EPA for further study." App. 17a.

The court did not state in its decision that the emission limitation established by EPA was set aside.[2]

In the administrative proceedings that followed, EPA read the court's mandate as meaning that it could meet its obligations on remand by merely supplementing the record to support its use of the Class A coefficients. EPA announced its intent to develop this supplemental record in February, 1979, and solicited comments for inclusion in the record. 44 *Fed. Reg.* 7798-7805. In June, 1980, EPA announced its final development of the supplemental record. App. 28a-62a. EPA contended at that point that it had fully discharged its legal obligations on remand by conducting a "further study" of the Class A issue. The agency rejected Ohio Power Company's argument that it had to promulgate an emission limitation to replace the emission limitation which had been found arbitrary and capricious. In EPA's view, the 1976 limitation had never been set aside, and the court's mandate authorized it to conduct a separate proceeding to "study" the Class A issue without connecting that proceeding to the promulgation of an emission limitation. App. 58a-59a. As a consequence, EPA believed it was only required to show that the supplemental record supported the Class A coefficients, and not the 1976 emission limit. *Id.*

Ohio Power Company's petition for administrative reconsideration of EPA's decision was denied (App. 71a-93a), and at the same time, the agency announced that the schedule for Ohio Power Company's bringing its powerplant into compliance with the 1976 limitation was "restarted," effective June, 1980 (App. 60a-70a).

---

[2] The Court of Appeals issued a subsequent decision "clarifying" its earlier order, but again did not indicate that it had set aside the emission limitation. App. 23a-27a.

Following these decisions, Ohio Power Company again petitioned the Court of Appeals for review. Ohio Power argued that the emission limitation had *necessarily* been set aside by the court's prior ruling that the agency's action was arbitrary and capricious.[3] Ohio Power requested that the case be remanded to EPA for promulgation of an emission limitation.

This request was not merely a matter of form. The agency, in its efforts to establish the propriety of the Class A coefficients on remand, used a different modeling procedure than it had used in establishing the emission limitation.[4] It did not, however, use that revised modeling procedure to reevaluate the propriety of the emission limitation—the most significant matter at issue. Had it done so, Ohio Power argued, a substantially less stringent emission limitation would have resulted. The revised modeling procedure employs the Class A coefficients but results in an emission limitation with which the Company's plant is already in compliance. Thus, promulgation of an emission limitation to replace the one that was held to be arbitrary would moot the entire controversy. The costs involved in EPA's refusal to repromulgate an emission limitation are substantial—approximately $29 million annually for Ohio Power Company.

---

[3] Ohio Power Company pointed out that, in another case, the same panel that remanded the Class A issue to EPA had described its remand in this case as having "*set aside* EPA's emissions limits." *Columbus & Southern Ohio Electric Co.* v. *Costle*, 638 F.2d 910, 911 (6th Cir. 1980) (emphasis added). Based on that description, it appeared possible—at least prior to the court's March, 1984, decision—that the court's failure to state that it had set aside the emission limitation was inadvertent and that the court would reject EPA's interpretation of the remand order.

[4] The revised modeling procedure was based on both a new model and different input data. App. 87a-90a.

The Court of Appeals, however, refused to address any issues relating to the emission limitation. It ruled that the emission limitation was not at issue in the case, since it had "carefully limited the remand to a single issue *and we should now decide only that issue.*" App. 6a (emphasis added.) That issue was: "[W]hether or not the EPA, since the remand, has properly carried out this court's mandate to undertake further study of the basis for the use of Class A coefficients." App. 5a. Having narrowed its scope of review to the single issue of whether the agency had conducted "further study" of the Class A issue, the court then found that EPA "did reconsider and introduce into the record additional support for its original finding that the . . . Class A coefficients should be used and we now affirm." App. 6a.

REASONS FOR GRANTING THE WRIT

This case presents an important and unsettled question of administrative law: Whether a court must set aside an agency rule that it has found to be arbitrary and capricious and remand it to the agency for repromulgation in compliance with the relevant statutory requirements. The two Sixth Circuit decisions at issue here[5] stand for the proposition that a court has the authority to remand selected "issues" to an agency for "further study" without setting aside the rule found to be arbitrary and capricious and without requiring the agency's rule to be repromulgated.

This approach conflicts with that taken by the majority of lower federal courts, which have held that the proper remedy for an arbitrary and capricious agency action is "to vacate the action and to remand the matter back to the agency for further consideration." *EDF* v. *Costle*, 657 F.2d 275, 285 (D.C. Cir. 1981); *see also California Cartage Co.* v. *United States*, 721 F.2d 1199, 1202 (9th Cir. 1983); *Action on Smoking and Health* v. *CAB*, 713 F.2d 795 (D.C. Cir. 1983); *Port Norris Express Co.* v. *ICC*, 687 F.2d 803 (3d Cir. 1982); *Central Power & Light Co.* v. *United States*, 634 F.2d 137, 150 (5th Cir. 1980); *Montana-Dakota Utility Co.* v. *FERC*, 631 F.2d 557, 562-63 (8th Cir. 1980); *Tabor* v. *Joint Bd. for Enrollment of Actuaries*, 566 F.2d 705, 711-12 (D.C. Cir. 1977). Decisions from other lower federal courts, however, have taken an approach similar to that of the Sixth Circuit. *See FMC Corp.* v. *Train*, 539 F.2d 973, 985 (4th Cir. 1976) (standards set under Clean Water Act "remanded to the Agency for further documentation"); *American Meat Institute* v. *EPA*, 526 F.2d 442 (7th Cir. 1975 (remand for the Agency to consider whether evidence already in the record would support rule); *NRDC* v. *EPA*, 494 F.2d 519, 526 (2d Cir. 1974) (remanding agency action based on "unrealistic" computer model for further study on specific issues).[6]

---

[5] As indicated in the Jurisdictional Statement, both decisions of the Sixth Circuit are appropriately before this Court for review since the 1978 decision was not a final judgment. *See* p. 2, *supra.*

This Court has not directly addressed the issue of the type of remand necessary after an agency rule is invalidated. The Court's decision in *Camp* v. *Pitts*, 411 U.S.

---

[6] It should be noted that the circumstances presented in the above cases vary. In *American Meat Institute*, for example, the court offered the agency the alternative of supporting its arbitrary and capricious regulation with evidence already in the record but not previously relied on. The agency would be allowed to follow that course of action without repromulgating the regulation. The court also made it clear, however, that if the agency developed new evidence for the record, it had to repromulgate the rule. 526 F.2d at 467. The Seventh Circuit's action, therefore, is a more moderate version of the Sixth Circuit approach, which authorized the agency to introduce new evidence into the record without repromulgation of the rule.

135 (1973) (per curiam), holds that an arbitrary agency decision "must be vacated," *id.* at 143. However, since the agency action at issue in *Camp* v. *Pitts* did not involve an exercise of agency rulemaking authority, the Court did not deal with the scope of the ensuing remand.

The Court should grant certiorari in this case to resolve the confusion among the lower federal courts and to clarify the principle stated in *Camp* v. *Pitts* for agency rulemaking. The statutory, constitutional and policy issues involved are substantial. The scope of a court's remand authority relates directly to the question of the proper boundaries of the relationship between courts and administrative agencies; the proper interpretation of the Administrative Procedure Act; and the "case or controversy" requirement of Article III of the Constitution. The present case is, moreover, a suitable one for the resolution of these issues, since the Sixth Circuit's failure to set aside the agency's action and remand for repromulgation has a substantial practical impact, amounting to nearly $30 million per year for Ohio Power Company.

THE DECISIONS BELOW RAISE IMPORTANT AND UNSETTLED QUESTIONS OF ADMINISTRATIVE LAW ON WHICH THERE IS CONFLICT AMONG THE LOWER FEDERAL COURTS

This Court's decisions bracket, but do not directly address, the issue of the proper scope of a remand order following a decision that an agency has acted arbitrarily and capriciously.

In *Citizens to Preserve Overton Park* v. *Volpe*, 401 U.S. 402 (1972), the Court held that a limited remand for an explanation of agency action is appropriate if the grounds for the agency's decision were not adequately disclosed on the record. *See Camp* v. *Pitts*, 411 U.S. 138, 143 (distinguishing *Overton Park*); *see also Harrison* v. *PPG Industries, Inc.*, 446 U.S. 578, 594 (1980) (reviewing court may remand for further administrative proceedings if the record is inadequate to permit "informed judicial review"). The purpose of the limited remand in that circumstance is to aid the court in its review, and the limited remand is issued without the court's reaching a determination on the arbitrariness or rationality of the rule. *See, e.g., Public Power Council* v. *Johnson*, 674 F.2d 791 (9th Cir. 1982).

The Court's decision in *Overton Park*, however, does not sanction limited remands for supplementation where the record before the court and the agency's explanations for its findings and actions are sufficiently developed to allow judicial review. This distinction was clearly set out in *Camp* v. *Pitts*. The Court in *Camp* stated that, where the record *is* adequate for judicial review "[t]he validity of the [agency's] action must stand or fall on the propriety of that finding, judged, of course, by the appropriate standard of review." *Camp* v. *Pitts, supra*, 411 U.S. at 143; *see also FPC* v. *Transcontinental Gas Pipe Line Corp.*, 423 U.S. 326 (1976) (per curiam).

This case falls squarely within the situation described by *Camp*. The record before the court was fully adequate to permit judicial review, and the court never suggested otherwise. The court's assessment, based on the record, was that EPA's use of the Class A coefficients to establish the emission limit was not a "rational decision" and was "arbitrary and capricious." App. 16a. Having reached that conclusion, however, the court's next step was to remand the Class A "issue" for "further study." Its apparent conclusion—subsequently made explicit in its decision after the remand proceedings—was that the agency could enforce its original rule if it supplemented the record on that one issue.

In *Camp* v. *Pitts*, the Court was not faced with the issue of determining the scope of reconsideration on remand necessary to resurrect an invalid rule. The agency action at issue in *Camp* was not subject to rulemaking procedures. As the Court noted, "neither the National Bank Act nor the APA requires the Comptroller to hold a hearing or to make formal findings on the hearing records when passing on applications for new banking authorities." 411 U.S. at 140-41.

A recent case interpreting *Camp* has pointed out:

> "Where, as in *Camp* . . ., the agency's explanation is required to be responsive to the purposes of the enabling statute, rather than to a record developed through mandatory hearings or public comments, *post hoc* rationalizations, while undesirable, are not fatal."

Action on Smoking and Health v. *C.A.B.*, 713 F.2d 795, 798 n.2 (D.C. Cir. 1983) (citations omitted).

The court in *Action on Smoking and Health* went on to address the open issue of what "steps an agency must take to enter a valid new order. . . ." *Id.* at 798. The D.C. Circuit concluded that the agency had to conduct a new inquiry, adhering to the same statutory requirements applicable to the initial promulgation. Facing the situation left open in *Camp*, the court reasoned that repromulgation was necessary to prevent *post hoc* rationalizations on the part of the agency and to provide the parties on remand the full benefit of the applicable statutory provisions. *Id.*

The Sixth Circuit's contrary conclusion in this case raises two distinct, though interrelated, issues: First, whether the failure to set aside an invalid rule and remand for repromulgation is consistent with Congress's and this Court's delineation of the proper relationship between courts and administrative agencies; and, second, whether the lower court's subsequent limitation of judicial review to the "issue" remanded to the agency is consistent with Article III of the Constitution and the principles governing judicial review of administrative action.

A. The Lower Court's Failure to Set Aside and Remand for Repromulgation Is Inconsistent with Congress's and this Court's Delineation of the Proper Relationship between Courts and Administrative Agencies.

The lower court viewed its remand for supplementation as flowing from the proper relationship between courts and administrative agencies as outlined by this Court's decisions.[7] The court noted that "decision-making (particularly in this highly technical area) is the primary responsibility of the agency and not the responsibility of this court," App. 16a, citing *Vermont Yankee Nuclear Power Corp.* v. *NRDC*, 435 U.S. 519 (1978), and *Citizens to Preserve Overton Park* v. *Volpe*, 401 U.S. 402 (1971). The court apparently viewed a remand for "further study" as a less "intrusive" judicial action, and thus more in keeping with the spirit of *Vermont Yankee* and *Overton Park*, than setting aside the agency action and requiring repromulgation of the emission limit.

The Court's approach, however, was misguided and contrary to the spirit of *Vermont Yankee.*

First, the court's action was inconsistent with the Administrative Procedure Act (APA). The Sixth Circuit's initial review of EPA's action was governed by the judicial review provisions of the APA, 5 U.S.C. § 706,[8] which state:

---

[7] The court may also have been influenced in its choice of a remand approach by its perception of the health hazards posed by powerplant emissions. App. 2a-4a; 6a. It is important to note, however, that the court misunderstood the purpose of the emission limitation at issue in this case. The limitation was set to protect the "secondary" national ambient air quality standard, not the "primary" standard. The primary standard is designed to protect health; the secondary standard is designed only to protect other general "welfare" concerns (*e.g.*, vegetation). 42 U.S.C. §§ 7409 (b)(2); 7602(h) (defining "welfare" considerations). Indeed, EPA never claimed that the limitation was necessary to protect public health and stayed enforcement of the limitation pending its Class A "study." App. 64a.

> The reviewing court *shall*—
>
> . . . (2) hold unlawful and *set aside* agency action, findings and conclusions found to be— (A) arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law; . . . .

5 U.S.C. § 706(2)(A) (emphasis added).

There is nothing in the Sixth Circuit's opinion, however, to suggest that the court recognized that the language of the APA constrained its choice of a remand order. Yet the Congressional instruction is unambiguous that the court "shall set aside" arbitrary and capricious rules. The APA certaintly contains no Congressional authorization for a limited remand of an arbitrary and capricious rule for "further study."

This Court has previously noted that the requirements of the APA represent a "statutory scheme through which Congress enacted 'a formula upon which opposing social and political forces have come to rest.'" *Vermont Yankee Nuclear Power Corp.* v. *NRDC, supra,* 435 U.S. at 547 (citation omitted). The Act's requirement that arbitrary rules be set aside serves several vital purposes: It acts as a restraint on judicial review by ensuring that agency action will not lightly be found arbitrary; it obviates the Due Process concerns that would be raised by an agency's attempting to enforce an arbitrary rule during the pendency of a remand; and it protects the integrity of the administrative process. The latter point is particularly important in this case.

---

[8] The court's review of EPA's actions under the Clean Air Act, as in effect when EPA promulgated the emission limitation at issue, was governed by the judicial review provisions of the APA. 5 U.S.C. §§ 701-706. *See Buckeye Power, Inc.* v. *EPA*, 481 F.2d 162, 171 (6th Cir. 1973), *cert. denied,* 425 U.S. 934 (1974). The Clean Air Act Amendments of 1977 contain their own judicial review provisions modeled after the APA. 42 U.S.C. § 7607(d). The language in the Clean Air Act now states that the reviewing court is to "reverse any . . . action found to be—arbitrary, capricious. . . ." *Id.* § 7607(d)(9)(A). The legislative history of the 1977 Amendments clearly indicates that this language was intended to parallel the APA, *see National Lime Ass'n* v. *EPA*, 627 F.2d 416, 452 and nn. 126-27 (D.C. Cir. 1980).

In the past, this Court has struck down lower courts' attempts to impose particular procedures on remand. *See Vermont Yankee Nuclear Power Corp.* v. *NRDC, supra,* 435 U.S. at 542-49 (court order requiring rulemaking process on remand to include more extensive procedures); *FPC* v. *Transcontinental Gas Pipe Line Corp., supra,* 423 U.S. at 333 (court order requiring agency to study issue of natural gas shortage); *FCC* v. *Schrieber,* 381 U.S. 279, 290 (1965) (court order requiring confidential proceeding on remand); *FCC* v. *Pottsville Broadcasting Co.,* 309 U.S. 134 (1940) (court order requiring agency to conduct proceedings on remand based on then-existing record).

In this case, rather than imposing a special procedure on the agency, the court authorized a special procedure. The remand order was then used by EPA as justification for limiting its scope of inquiry to the Class A issue and for ignoring the ultimate question of the validity of the emission limitation.[9] The court's authorization of the truncated inquiry on remand harms the administrative process as much as the imposition of special procedures in cases such as *Vermont Yankee.*

It is not the province of a reviewing court to assume that an arbitrary and capricious rule can be cured by studying and supplementing the record on one particular factual issue. An agency rule is an amalgam of factual findings and policy considerations applied to yield a final action—here, an emission limitation. K. Davis, *Administrative Law Treatise,* §§ 7.1. 7.2 (1979). Removal of one finding from the jackstraw pile of findings and policy considerations that comprise the agency's final action can have effects that the court, lacking in technical expertise, cannot anticipate. *See SEC* v. *Chenery,* 332 U.S. 194, 195-97 (1947). That is well-illustrated in this case.

---

[9] For example, in denying Ohio Power Company's petition for reconsideration, EPA briefly discussed the differences between the modeling procedures it used in setting the limitation and those it used to "study" the Class A coefficients. In that discussion, the agency simply concluded that the differences were insubstantial for purposes of its "study," but never addressed whether those differences would result in a changed emission limitation. App. 87a-90a.

The computer models EPA uses to set emission limitations are, in essence, sophisticated methods for processing facts (data) in accordance with a given set of assumptions (such as the Class A coefficients). Changes in either the input data or the method of processing the data can alter the resulting emission limitation. The Class A coefficients can be used to produce any of a variety of results depending on the data and computer model used.[10]

What the court's remand authorized EPA to do was to "study" and justify the Class A coefficients using a model with a different set of data and assumptions than those used in the model that produced the emission limitation. By failing to set aside the emission limitation and remand for repromulgation, the court invited EPA to pull one set of assumptions out of the statutory decision-making context and deprived Ohio Power Company of the opportunity to challenge the connection between the agency's finding of fact (*i.e.*, the computer model used to process data) and the agency's action (the emission limitation).[11]

---

[10] *See* p. 5, *supra.*

[11] Computer models are an increasingly important tool in agency rulemaking. Congress's concern over the potential abuses of computer modeling in the context of the Clean Air Act led it to require EPA to establish uniform modeling techniques and review and update the models periodically as science develops. 42 U.S.C. §§ 7475(e) (3) (D) and 7620.

In the context of adjudicatory proceedings, this Court has emphasized that an order remanding an agency action should not constrict the parties' opportunity to raise any and all objections to an agency's action on remand. *See Ford Motor Co.* v. *NLRB*, 305 U.S. 364, 374-76 (1939) (a proper remand "does not encroach upon administrative functions" or restrict the parties' right to raise all objections to the agency's action since "the setting aside of the findings and order carrie[s] with it the opportunity for reconsideration and the making of a new record"); *see also SEC* v. *Chenery, supra,* 332 U.S. at 201 ("after the remand was made . . ., the Commission was bound to deal with the problem afresh, performing the function delegated to it by Congress"). The same principle should apply in the context of informal rulemaking.

A contrary conclusion would invite *post hoc* rationalizations. *But see Burlington Truck Lines* v. *United States,* 371 U.S. 156, 165-69 (1962). In this case, the court's remand encouraged *post hoc* findings. It allowed EPA to keep the 1976 emission limitation in place, on the condition that the "further study" of the Class A coefficients resulted in an affirmation of those coefficients. App. 17a. *Post hoc* supplementation of the record was the path of least resistance, allowing the agency to avoid reconsideration of the emission limitation itself.

The failure to set aside invalid agency action thus provides the agency with an excuse for truncating the administrative inquiry. The agency is invited to design the inquiry on remand to satisfy the court's limited order, not its statutory mandate. That is what occurred in this case, and it affected both the proceedings on remand and the subsequent judicial review.

B. The Lower Court's Limitation of Judicial Review to the "Issue" Remanded to the Agency Is Inconsistent with the Proper Function of Judicial Review under Article III of the Constitution.

In reviewing EPA's response to its remand, the Sixth Circuit held: "Thus the sole issue of practical significance before this court at this time is the question as to whether or not the EPA, since the remand, has properly carried out this court's mandate to undertake further study of the basis for the use of Class A coefficients. . . ." App. 5a. In fact, the Class A coefficients in isolation have no practical significance; it is the emission limitation that determines what Ohio Power must do. The issue the court reviewed was whether EPA complied with its mandate of "further study," not whether the agency complied with Congress's mandate that its emission limitation be rational and supported on the record. 42 U.S.C. § 7607(d). Similarly, the court reviewed whether EPA's action on remand was adequate in terms of the "further study," but not whether its action was adequate for the promulgation of an emission limitation. App. 6a, n.2.[12] In short, the court substituted its interest in the Class A issue for the Congressionally-mandated focus on the rationality of the emission limitation.

In failing to review the issue of the emission limitation, the lower court treated judicial review of agency rulemaking as though it were a collaborative process in which the court affirms findings and identifies problem areas and the agency, in response, must only address the problem areas.[13] That approach may be appropriate in the context of judicial review of a lower court decision but it is inappropriate for judicial review of agency action. *See FCC* v. *Pottsville Broadcasting Co.*, 309 U.S. 134, 140-44 (1940). As Justice Frankfurter stated in *Pottsville*:

---

[12] The Court briefly addressed the issue of whether EPA had to comply with the procedural requirements of the Clean Air Act relating to the promulgation of an emission limitation. App. 6a, n. 2. The court held that EPA did not, since its "study" did not involve promulgation of an emission limit and that, in any event, the "study" was done with adequate notice and comment, making the procedural error "harmless." *Id.* The court clearly did *not* address whether the agency properly reconsidered the emission limitation itself.

> What is in issue is not the relationship of federal courts *inter se*—a relationship defined largely by the courts themselves—but the due observance by courts of the distribution of authority made by Congress as between its power to regulate commerce and the reviewing power which it has conferred upon the courts under Article III of the Constitution.

Id. at 141.

At heart, the error in the decisions below was that the Sixth Circuit perceived its judicial function as though it were reviewing the resolution of the *issue* of the Class A coefficients and not the *action* of the agency in imposing an emission limitation. Courts, however, have no authority to review issues"; their authority is to review "cases or controversies". U.S. CONST. Art. III § 2, cl. 1; *see Valley Forge College* v. *Americans United For Separation of Church and State*, 454 U.S. 464, 472 (1982); *Federal Radio Comm.* v. *General Electric Co.*, 281 U.S. 464, 469 (1930) (a court on judicial review "cannot give decisions which are merely advisory; nor can it exercise or participate in the exercise of functions which are essentially . . . administrative").

---

[13] The Sixth Circuit was of the view that it had "approved the EPA plan in all respects except one. The exception pertained to the EPA's employment of the Class A assumption . . . ." App. 4a. The court did not explain how it could have "approved" the emission limitation while striking down the agency's use of the Class A coefficients, particularly since the Class A coefficients, as employed in the agency's previous model, were the determining factor in establishing the emission limitation. *See* App. 14a.

The requirement that arbitrary agency action be set aside and remanded for repromulgation implements the "case or controversy" limitation by ensuring that the court reviews and acts upon the contested agency action and that the proceedings on remand are directed to the resolution of the relevant statutory issues, not the court's interest in an issue in the abstract.

As evidenced by the Sixth Circuit's decisions, it is enticing for a court to limit its remand to "issues." That approach appears to provide a short cut through what may be perceived as a cumbersome administrative process and a method of limiting the issues for subsequent judicial review. But as the court stated in *Pottsville*, it is an enticement that must be resisted.

> It is . . . urged upon us that if all matters of administrative discretion remain open for determination on remand after reversal, a succession of single determinations upon single legal issues is possible with resulting delay and hardship. . . . But courts are not charged with general guardianship against all potential mischief. . . . Congress which creates and sustains these agencies must be trusted to correct whatever defects experience may reveal. Interference by the courts is not conducive to the development of habits of responsibility in administrative agencies.

FCC v. *Pottsville Broadcasting Co., supra*, 309 U.S. at 146.

CONCLUSION

In several recent cases, this Court has attempted to correct the inclination of the lower federal courts to insert themselves into the administrative process and "improve" upon the statutory structure created by Congress. This case presents a comparable problem in a different, though equally important, context. The Court should address the issue of the proper scope of a remand order after agency action is found arbitrary and capricious.

The issue is one that arises frequently and the lower courts have reached conflicting conclusions. Several strains from this Court's prior decisions—the concerns expressed over intrusive judicial review, *post hoc* agency rationalizations, and the proper role of the courts under Article III—all suggest that the Sixth Circuit's resolution of the issue left open in *Camp* was in error. Ohio Power Company has been substantially harmed by that error.

This Court should grant certiorari to resolve the issue of the proper scope of a remand order and to clarify the application of the principles announced in *Camp* v. *Pitts* and *Overton Park* for agency rulemakings.

Respectfully submitted,

EDWARD BERLIN
Counsel of Record for Petitioner
FRANCIS S. BLAKE
SWIDLER, BERLIN & STRELOW,
CHARTERED
1000 Thomas Jefferson St., N.W.
Washington, D.C. 20007
(202) 342-5500

A. JOSEPH DOWD
JEFFREY P. WHITE
OHIO POWER COMPANY
E. DONALD ELLIOTT
Box 401A Yale Station
New Haven, Connecticut 06520
Of Counsel

August 3, 1984

APPENDIX

APPENDIX

UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

Nos. 80-3561, 80-3730, 80-3732, 80-3813,
77-1367, 76-2090

OHIO POWER COMPANY;
CINCINNATI GAS & ELECTRIC COMPANY, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
and ANNE M. GORSUCH, Administrator,
Respondents.

THE COMMONWEALTH OF PENNSYLVANIA, (80-3813),
Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
and ANNE M. GORSUCH, Administrator,
Respondents,

OHIO POWER COMPANY and
COLUMBUS AND SOUTHERN OHIO ELECTRIC COMPANY,
Intervenors.

On Petitions to Review Final Action of the
Administrator of the United States
Environmental Protection Agency

Decided and Filed March 22, 1984

Before: **Edwards**, Circuit Judge; **Phillips** and **Peck**, Senior Circuit Judges.

Edwards, Circuit Judge. This appeal concerns the problem of airborne sulphur dioxide emanating from three major power plants located in rural areas in the State of Ohio.[1] The pollution of the ambient air by sulphur dioxide (produced by burning high sulphur coal), is a medically recognized threat to human health. This is particularly true as to infants, the ill and the aged. It also contributes to acid rain with its subsequent deleterious impact on the plant and fish life in the lakes and rivers of Ohio and neighboring states. Indeed it is alleged to contribute to the latter type of pollution in downwind areas as far removed as New England and Eastern Canada.

The fundamental issues of this case were dealt with and decided over five years ago in *Cleveland Electric Illuminating Co.* v. *EPA*, 572 F.2d 1150 (6th Cir. 1978) and *Cincinnati Gas & Electric Co.* v. *EPA*, 578 F.2d 660 (6th Cir. 1978), *cert. denied,* 439 U.S. 1114 (1979). In those two opinions, this court approved the EPA's plan for controlling the ambient air affected by four power plants and the Supreme Court denied certiorari. This court's basic rationale for its approval of the EPA's air quality standards was (and remains) concern about human health and safety. In our earlier *Cleveland Electric* decision, we said:

---

[1] (1) Stuart (Dayton Power & Light)—now in compliance, but remaining in litigation;

(2) Cardinal (Ohio Power Co.)—limits not contested, but if P-G Class A coefficients are again vacated, the limits are once again in question; and

(3) Muskingum River (Ohio Power Co.)—only plant in which emission limitations are still contested.

One petition involved in the original appeal (that of Columbus & Southern Ohio Electric Company's Conesville plant) has been voluntarily dismissed.

The federal Clean Air Act program which produced these standards is based primarily upon the adverse effect which air pollution has upon human life and health.

Acute episodes of high pollution have clearly resulted in mortality and morbidity. Often the effects of high pollutant concentrations in these episodes have been combined with other environmental features such as low temperatures or epidemic diseases (influenza) which may in themselves have serious or fatal consequences. This has sometimes made it difficult to determine to what extent pollution and temperature extremes are responsible for the effects. Nevertheless, there is now no longer any doubt that high levels of pollution sustained for periods of days can kill. Those aged 45 and over with chronic diseases, particularly of the lungs or heart, seem to be predominantly affected. In addition to these acute episodes, pollutants can attain daily levels which have been shown to have serious consequences to city dwellers.

* * * *

There is a large and increasing body of evidence that significant health effects are produced by long-term exposures to air pollutants. Acute respiratory infections in children, chronic respiratory diseases in adults, and decreased levels of ventilatory lung functions in both children and adults have been found to be related to concentrations of SO_2 and particulates, after apparently sufficient allowance has been made for such confounding variable as smoking and socioeconomic circumstances.

Rall, *Review of the Health Effects of Sulfur Oxides*, 8 Env'tal Health Perspectives 97, 99 (1974).

* * * *

Two other facts should be added from the extensive technical record in this case before we turn to

> the specific legal issues. The first is that sulfur dioxide emitted from plant stacks reacts with other elements in the atmosphere to form sulfuric acid mist and various suspended sulfates which are in fact the irritants which adversely affect human health. T. Lewis, M. Amdur, M. Fritzhand & K. Campbell, Toxicology of Atmospheric Sulfur Dioxide Decay Products 17 (1972).
>
> The second important fact is that these derivatives from sulfur dioxide tend to be airborne for days. They affect areas at great distances downwind, even when in the original sulfur dioxide form they were emitted from a high power plant stack.
>
> Rall, *Review of the Health Effects of Sulfur Oxides*, 8 Env'tal Health Perspectives 97, 106 (1974).

572 F.2d at 1153, 1155.

While three of the original petitioners are parties to this appeal, we are advised that two of the four are now in compliance with the EPA standards which we approved in 1978. As to those two appellants, this appeal is in effect a petition to roll back emission standards which are currently being met, and thus to increase SO_2 emissions in the ambient air in Ohio and elsewhere.

As indicated above, the plant not in compliance is Ohio Power Company's Muskingum River plant.

This court, in its opinion in *Cincinati Gas & Electric Co.* v. *EPA*, *supra*, approved the EPA plan in all respects except one. The exception pertained to the EPA's employment of the Class A assumption in determining pollution dispersion under least stable wind conditions in rural areas. As to this issue, we remanded saying as follows:

> On this present record we conclude that United States EPA's employment of the Class A assumption in determining pollution dispersion under "least

> stable" wind conditions in rural areas and areas of complex terrain is not a rational decision and is arbitrary and capricious.
>
> As we read EPA's position on this point, it is that no better solution has been proposed. This answer, however, ignores the Enviroplan and Smith-Singer studies. More importantly, it ignores the conclusions of the experts' conference convened by Argonne National Laboratory at United States EPA's own request. The report of that conference suggested "elimination of the A curve and the use of the B curve for both A and B stability categories." *See* Report of the Specialists' Conference on the EPA Modeling Guideline, Feb. 22-24, 1977, Chicago, Illinois, at § 2.7.5: "Vertical Dispersion Estimates."
>
> By pointing out this proposed solution, we do not mandate its acceptance by United States EPA. Our ultimate action on this score is simply to remand this issue to United States EPA for further study. This might result in the writing of a new record which supplies the now missing support for the use of Class A coefficients for the least stable wind condition in rural counties, or it might result in United States EPA's adoption of use of the Class B coefficients for the two least stable wind conditions, or it might result in a new record which supports a wholly new solution.

578 F.2d at 663-64.

Thus the sole issue of practical significance before this court at this time is the question as to whether or not the EPA, since the remand, has properly carried out this court's mandate to undertake further study of the basis for the use of Class A coefficients and whether, if so, the record now supports EPA's renewed determintion that the Class A coefficients should continue to be used for power plants in rural areas.

We now have this case back before us with many newly stated arguments from EPA's opponents[2] and some from Intervenor State of Pennsylvania.

After a lengthy hearing (which included the State of Pennsylvania's contentions), the court concludes that we carefully limited the remand to a single issue and that we should now decide only that issue. This record shows that EPA did reconsider and did introduce into the record additional support for its original finding that the Pasquill-Gifford Class A coefficients should be used and we now affirm.

Since the beginning, this case has been the subject of careful study by this court because of 1) the complexity and technicality of the record; 2) the economic importance of the decision to the industry concerned; and 3) the health hazards to the general public. Yet our review is limited by a very narrow standard. Congress has provided:

> (9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be—
>
> (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

42 U.S.C. § 7607(d)(9)(A) (Supp. I 1977).

The Supreme Court has elaborated upon this standard:

> Under the "arbitrary and capricious" standard the scope of review is a narrow one. A reviewing court

---

[2] Petitioners also contend that EPA was required on this remand to follow the formal notice requirements of § 307(d) of the Clean Air Act, 42 U.S.C. § 7607(d). We agree with EPA, however, that the reconsideration ordered by this court did not constitute either promulgation or revision of an implementation plan. Additionally, if we were to assume the applicability of § 307(d) to this proceeding, any deviation from the § 307(d) requirements under the record contained here would be harmless within the meaning of 42 U.S.C. § 7607(d)(9).

> must "consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment. . . . Although this inquiry into the facts is to be searching and careful, the ultimate standard of review is a narrow one. The court is not empowered to substitute its judgment for that of the agency." *Citizens to Preserve Overton Park* v. *Volpe, supra,* at 416. The agency must articulate a "rational connection between the facts found and the choice made." *Burlington Truck Lines* v. *United States,* 371 U.S. 156, 168 (1962). While we may not supply a reasoned basis for the agency's action that the agency itself has not given, *SEC* v. *Chenery Corp.,* 332 U.S. 194, 196 (1947), we will uphold a decision of less than ideal clarity if the agency's path may reasonably be discerned. *Colorado Interstate Gas Co.,* v. *FPC,* 324 U.S. 581, 595 (1945).
>
> *Bowman Transportation, Inc.* v. *Arkansas-Best Freight System, Inc.,* 419 U.S. 281, 285-86 (1974).

Undertaking the review called for concerning the issue in this case, we find that the agency took the following actions:

1) At a meeting of EPA Region V staff representatives on August 15, 1978, this court's remand of the Pasquill-Gifford dispersion coefficients was considered. EPA thereafter decided to continue to use the Class A coefficients "until an alternative approach is sufficiently demonstrated to be more adequate."

2) February 7, 1979, EPA published a Notice of Reconsideration in 44 Fed. Reg. 7,798 (1979), concerning 1) the use of Class A coefficients at the four power plants then concerned; and 2) extending the time necessary for compliance with emission limitations.

3) EPA also considered and rejected the solution proposed by appellants, namely, the use of Class B dispersion

coefficients "as contrary to both dispersion theory and available data." It based the rejection in part upon data taken from studies at the Karlsruhe Nuclear Research Center in Germany. These studies, EPA found, supported use of the Class A coefficients.

4) A period followed when EPA received and considered objections filed by the appellants claiming 1) inapplicability of the Karlsruhe data and EPA's misinterpretation of it; 2) EPA's failure to consider all alternatives; and 3) its failure to take into proper account "The enormous economic costs involved."

5) On June 19, 1980, EPA announced and published its intention to continue to employ the Pasquill-Gifford Class A coefficients (*See* 45 Fed. Reg. 41,501 (1980)). It subsequently denied appellants' motions to reconsider.

This court, of course, has no responsibility for determining the merits (or lack thereof) of the technical standard EPA has adopted. Our duty ends when we are able to say that the agency has acted lawfully and that the decision is not "arbitrary, capricious or an abuse of discretion." We find no violation of this standard on review of this record. The instant petitions for review are dismissed.

UNITED STATES COURT OF APPEALS
SIXTH CIRCUIT

Nos. 76-2090, 77-1367, 76-2232, 77-1361, 76-2241,
77-1357, and 76-2278

CINNCINNATI GAS & ELECTRIC CO., COLUMBUS & SOUTHERN OHIO ELECTRIC CO., DAYTON POWER & LIGHT CO., OHIO EDISON CO., OHIO POWER CO., SHELL OIL CO., AUSTIN POWDER CO., E. I. du PONT de NEMOURS & CO.,
Petitioners,

v.

ENVIRONMENTAL PROTECTION AGENCY and DOUGLAS M. COSTLE, ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY,
Respondents.

Argued Oct 21, 1977

Decided June 29, 1978

Louis E. Tosi, C. Randolph Light, Fuller, Henry, Hodge & Snyder, Toledo, Ohio, Daniel W. Kemp, Cincinnati, Ohio, for Cincinnati Gas & Elec. Co., Shell Oil Co., et al.

James Van Carson, Squire, Sanders & Dempsey, Cleveland, Ohio, for Austin Powder Co.

Carl B. Everett, Legal Dept., E. I. du Pont de Nemours & Co., Wilmington, Del., for E. I. du Pont de Nemours & Co.

Ronald C. Hausmann, E.P.A., Paul M. Kaplow, Dept. of Justice, Washington, D.C., Mary Ann Muirhead, Region V, E.P.A., Chicago, Ill., Ned Williams, Director, Ohio E.P.A., Columbus, Ohio, for respondents.

Before PHILLIPS, Chief Judge, and EDWARDS and PECK, Circuit Judges.

EDWARDS, Circuit Judge.

This opinion deals with certain additional issues presented in 23 industry petitions covering 32 major power and industrial companies in Ohio objecting to the United States EPA's plan for control of SO_2 pollution in Ohio. These additional issues concern only point sources of SO_2 pollution in Ohio's rural areas or areas with complex terrain. This opinion should be read as supplementary to the opinion of this court dated February 13, 1978, *Cleveland Electric Illuminating Co., et al. v. Environmental Protection Agency, et al.*, 572 F.2d 1150 (6th Cir. 1978).

Our focus herein is upon the following petitioners and the designated facilities belonging to them. These petitioners protest certain features of the United States EPA model (MAXT-24) employed for predicting plant pollution in rural and complex terrain areas:

Nos. 76-2090, 77-1367:

Cincinnati Gas & Electric Co., all facilities (Hamilton & Clermont Counties).

Columbus & Southern Ohio Electric Co., all facilities (Athens, Coshocton, Pickaway Counties).

Dayton Power & Light Co., all facilities not covered by opinion dated February 13, 1978 (Adams County).

Ohio Edison Co. (Jefferson County) Sammis Plant only.

Ohio Power Co., all facilities (Washington and Morgan Counties).

No. 76-2278:

E. I. du Pont de Nemours & Co., all facilities (Hamilton County).

Nos. 76-2232, 77-1361:

Shell Oil Co., all facilities (Washington County).

Nos. 76-2241, 77-1357:

Austin Powder Co., all facilities (Vinton County).

The MAXT-24 model (Second Maximum 24-Hour Dispersion Model with Terrain Adjustments) is designed for use in predicting SO_2 pollution resulting from single sources located in rural areas. Unlike the RAM model employed in urban areas, which we dealt with in *Cleveland Electric Illuminating Co., supra,* MAXT-24 does not provide estimates of comparative contributions to total SO_2 pollution from a number of point sources. The MAXT-24 model treats each point source as an isolated problem, and only general background SO_2 pollution data are added into the formula.

In other respects the MAXT-24 model strongly resembles the RAM model.[1] Thus, like RAM, MAXT-24 starts with a solid ascertainable data base, namely, the established design capacity of the power or steam generating plants in question related to the sulfur content of the fuel used by such plants. Emissions data are developed from these factors. Subsequently, stack height, wind, weather, and terrain data are added. Like RAM, MAXT-24 employs a Gaussian plume formula and assumes vertical and horizontal dispersion of the pollution plume. It employs the Pasquill-Gifford stability classifications and coefficients.

Like RAM, the MAXT-24 model was designed by United States EPA largely as a result of industry criticism of the use of rollback modeling. As was true in relation to the RAM results, the results of use of MAXT-24 were generally less strict than those contemplated by the 1972 and 1974 Ohio EPA SO_2 regulations.[2]

---

[1] *See Cleveland Electric Illuminating Co., supra,* Section 3, 572 F.2d at 1160-64.

Indeed, the comments this court made in *Cleveland Electric Illuminating Co., supra,* in Section 3 of the opinion are largely applicable to EPA's adoption of MAXT-24 and we cite and rely on said Section 3 in hold-

---

[2] The following summary is drawn from *Cleveland Electric Illuminating Co., supra,* Appendix A, 572 F.2d at 1165-74:

US EPA 1976-77 MAX regs are:	Ohio EPA 1972 regs for:	Ohio EPA 1974 regs for:	
1. less strict than	19	16	of petitioners' facilities [a]
stricter than	1	5	"
ambiguous [b] compared with	3	2	"
2. less strict than	31	27	of Ohio counties modeled entirely with MAX
stricter than	3	6	"
ambiguous [b] compared with	5	6	"
3. less strict than	38	32	of Ohio counties in which MAX was employed
stricter than	3	6	"
ambiguous [b] compared with	12	15	"

[a] Including facilities to the regulation of which petitioners do not object.

[b] *I.e.,* stricter for some stacks or facilities and less strict for others; or employing different units of measurement, rendering comparison impossible.

The 1972 Ohio EPA plan was submitted to United States EPA on January 30, 1972, but was "withdrawn" by the Governor of Ohio on August 27, 1972. The 1974 Ohio EPA plan was submitted to United States EPA on September 22, 1974, and was withdrawn on July 16, 1975. *See Cleveland Electric Illuminating Co., supra.* 572 F.2d at 1156.

ing that in general (and with one exception noted below) the EPA's adoption and use of the MAXT-24 model is not arbitrary or capricious and, like the use of the RAM model, must be affirmed by this court.

Despite the discussion above, we are not certain that any of the petitions we deal with in this opinion seriously disputes the general validity of the MAXT-24 model. What these petitioners clearly do contend is that the MAXT-24 model results are badly skewed to their great economic disadvantage by 1) the Class A assumption employed to estimate pollution dispersion in the least stable wind condition, and 2) the failure of EPA to employ the half ground displacement theory in estimating pollution impact on hillly terrain.

I THE CLASS A ASSUMPTION ISSUE

The MAXT-24 model makes use of a set of six coefficients for determining plume dispersal. The classes of coefficients employed were based upon six different weather conditions. The term Class A is employed to describe both the least stable weather condition and the set of assumptions which is based on the most direct and quickest impact of the pollution plume upon ground level with the least prior dispersal.

The six Pasquill-Gifford coefficients employed in MAXT-24 are derived from a Nebraska study made in the 1950's and are referred to by United States EPA as "time-tested" What this defense appears to ignore, however, is that petitioners in this instance (contrary to the general attack upon the six coefficients employed in RAM) are not objecting to the use of the coefficients; they are attacking the accuracy of one set of them—the Class A set associated with "gusty winds." Specifically they claim that the Class A assumption is fallacious in that it assumes a longer period of downward draft than occurs in fact and fails to make allowance for the lateral dispersal which would accompany such a vertical wind at the point of impact.

The lead brief for the utilities presents the case thus:

> In all modeling of rural power plants, EPA utilized dispersion coefficients under Class A stability conditions which have no support in data, which have been repudiated by most modelers and which are demonstrated inaccurate by this record. As applied to this rulemaking, this seemingly simple assumption is exceedingly important because, *for almost ⅓ of the power plants in Ohio, it was the determining factor in establishing emission limits.*
>
> *The meaning of "Class A."*
>
> Diffusion models can account for thousands of bits of data. Most important are meterological data of which stability classes are an aspect.
>
> Specifically, stability classes are categorizations of the atmosphere's ability to disperse plumes. These classes are divided into six categories ranging from extreme dispersion of plumes (Class A) to minimum dispersion (Class F). Under Class A, a plume is assumed to disperse very rapidly to the ground level before there is any substantial dilution. This, in turn, leads to predictions of high ground level concentrations. The fundamental issue, therefore, is whether the Class A assumption describes the manner in which plumes disperse at rural power plants and whether the phenomena it depicts really occur.
>
> Brief of Utility Petitioners at 31-32 (emphasis in original).

Petitioners then detail the results of three separate studies which they claim attack and undermine the validity of the Class A coefficients, and generally urge substitution of Class B coefficients. These studies are the privately financed study by Environplan, Inc., a similarly produced study by Smith-Singer Meteorologists, and a strongly critical report resulting from the Specialists' Conference of February 22-24, 1977, sponsored by United States EPA itself through the Argonne National Laboratory.

To this argument the EPA's response is as follows:

> EPA properly determined that the "Class A" stability factors should continue to be used until new field data proved them incorrect.
>
> Petitioners argue that EPA should have changed the dispersion coefficients used in the rural MAX (CRSTER) model for analyzing ground level concentrations caused by a source in very unstable weather, known as "Class A" conditions. In the remand comment period, the utility petitioners presented various theories that the model did not accurately reflect the way wind patterns in such weather conditions affect dispersion patterns and that therefore the model might be overestimating ground level concentrations for a 3-hour analysis. Petitioners argue that it was arbitrary or capricious for EPA not to accept theories presented in their comments.
>
> EPA recognized in the STSD [Supplemental Technical Support Document] at 55 that there was a growing concern among atmospheric modeling scientists about the issue. EPA determined, however, that until further studies could be done to substantiate the theories, there was no experimental or field data to justify changing the dispersion curves or to determine how the dispersion equations should be changed. And since petitioners did not submit any data, no change could be made in the equations used. *Id.*
>
> EPA Brief at 48-49.

We are, of course, aware that decision-making (particularly in this highly technical area) is the primary responsibility of the agency and not the responsibility of this court. *See Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 98 S.Ct. 1197, 55 L.Ed.2d 460 (1978). As we said in *Cleveland Electric Illuminating Co., supra*:

> Our standard of review of the actions of United States EPA is whether or not the action of the agency is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." Clean Air Act Amendments of 1977, Pub.L. No. 95-95, § 305(a), 91 Stat. 775 (to be codified as 42 U.S.C. § 7607(d)(9)(A)). Thus, we are required to affirm if there is a rational basis for the agency action and we are not "empowered to substitute [our] judgment for that of the agency." *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 [91 S.Ct. 814, 28 L.Ed.2d 136] (1971).
>
> 572 F.2d at 1161.

On this present record we conclude the United States EPA's employment of the Class A assumption in determining pollution dispersion under "least stable" wind conditions in rural areas of complex terrain is not a rational decision and is arbitrary and capricious.

As we read EPA's position on this point, it is that no better solution has been proposed. This answer, however, ignores the Enviroplan and Smith-Singer studies. More importantly, it ignores the conclusions of the experts' conference convened by Argonne National Laboratory at United States EPA's own request.[3] The report of that conference suggested "elimination of the A curve and the use of the B curve for both A and B stability categories." *See* Report of the Specialists' Conference on the EPA Modeling Guideline, Feb. 22-24, 1977, Chicago, Illinois, at § 2.7.5: "Vertical Dispersion Estimates."

---

[3] This conference was initiated by United States EPA and one of the participants was the Director of EPA Region V, which Region includes Ohio. The conference occurred during the remand

By pointing out this proposed solution, we do not mandate its acceptance by United States EPA. Our ultimate action on this score is simply to remand this issue to United States EPA for further study. This might result in the writing of a new record which supplies the now missing support for the use of Class A coefficients for the least stable wind condition in rural counties, or it might result in United States EPA's adoption of use of the Class B coefficients for the two least stable wind conditions, or it might result in a new record which supports a wholly new solution.

II THE TERRAIN ADJUSTMENT PROBLEM

The original MAXT-24 model assumed that the pollution plume moves downwind in a straight line from a point determined by the height of the smoke stack plus plume rise ("effective stack height"). Under that assumption, if effective stack height is 600 feet and there is a hill 800 feet high downwind, a receptor site located 600 feet up that hill will therefore in theory receive the full impact of the pollutants in the center of the plume.

Petitioners' attack upon this set of assumptions is, we believe, best stated by the Shell Oil Co. brief:

> The reference to "the effect of the terrain on the plume" is an easily understood concept. Since the wind which blows the plume toward a hill (terrain)

---

period of this litigation, and three months before the finally amended regulations were promulgated. We consider the Conference Report to be properly a part of the appellate record.

> *cannot blow through* the hill, it must blow up and over the hill. This effect causes all the *layers of air above the wind at ground level*, and hence the plume itself, to be carried up and over the hill rather than hitting directly into its side. A *widely recognized* means of accounting for such a situation, and one which EPA has used, is to incorporate mathematical changes in the model which reduce the receptor height by the one-half difference between stack base and receptor elevation and limit the approach of the center line of the plume to ten meters above the receptor.
>
> Shell and its consultant, Enviroplan, recommended this change to U.S. EPA. Moreover, this change was supported in the modeling literature by two other independent experts—Briggs and Egan. Also, another consultant, Environmental Research & Technology, Inc. ("ERT"), recommended the same adjustment in a report submitted to EPA during the comment period for Columbus & Southern Ohio Electric Co. See "A Technical Review of the U.S. EPA Ohio State Implementation Plan for Sulfur Dioxide," January 1977, prepared for C&SOE. (App. 210-213.) Indeed, this approach is so well recognized that EPA, Region II, approved its use in sustaining a revision of the implementation plan for Puerto Rico. See 40 Fed. Reg. 52410 (1975).
>
> Brief of Shell Oil Co., at 19-20.

As to this argument, the EPA brief contains this comment and admission:

> Contrary to petitioners' claims, EPA utilized available monitoring data wherever possible. As set forth in detail in both the Final and the Supplemental Technical Support Documents, EPA conducted validation studies of the dispersion model used to set emission limitations for isolated, rural power plants.

> *See* STSD at 53-55, and the FTSD at 27-34. The validation studies compared model predictions of SO_2 ground level concentrations to actual air quality monitor data. These comparisons indicated that for sources located on flat terrain, the correlation between monitor data and predictions was quite good with the model tending to underpredict, but that for power plants located on hilly terrain, the comparisons showed consistent overpredictions.
>
> EPA Brief at 45-46 (footnote omitted).

The EPA brief then goes on to assert that certain adjustments have been made in the model "so that it could handle dispersion in hilly terrain more accurately," and then cited the Supplemental Technical Support Document at page 55. The STSD material referred to follows:

> The validation studies which compared model predictions of SO_2 ground level concentrations to actual air quality monitor data indicated that in certain situations the model overpredicted and needed modification. The problem usually occurred when air quality monitors were at elevations higher than the top of the stack. To correct this, terrain data used in the model was limited in such a way that terrain features were always assumed to be no higher than the stack height of the source stack in question. This was deemed to be an appropriate adjustment because the validation study showed a high degree of correlation between model predictions and sample readouts from monitors positioned on terrain lower than stack height in elevation. When this assumption was mathematically incorporated into the model, the validation studies showed that the model accurately predicted the ground level concentrations observed by the monitors.

Petitioners proposed a different method for modifying the model to account for complex terrain situa-

> tions, but the proposal is not based on any validation studies of the CRSTER model. The Agency has no way of determining if the proposal is a better modification to the model than the modification made by the Agency after the validation studies. The Agency, therefore, has determined that the model does not need further modifications because of any information presented by the petitioners.
> EPA Brief at 54-55.

While the record does not establish conclusively that this adjustment made by United States EPA in the remand period will prove a satisfactory solution to the problem posed, neither does the record offer evidence to the contrary. We note, of course, that United States EPA has disowned the apparent implication in its brief that it had made validation studies of this latest adjustment for hilly terrain. And, in fact, our holding on this issue should not be read as this court's rejection of petitioners' half ground displacement theory in favor of the United States EPA adjustment outlined above. There may well be occasion for the agency to continue to review this issue. All we hold is that on the present record, we cannot find that United States EPA's present terrain adjustment in MAXT-24 is "arbitrary or capricious."

For the reasons indicated above, the petitions of Dayton Power & Light Co. (Adams County facilities only), Ohio Power Co. (all facilities), Columbus & Southern Ohio Electric Co. (Coshocton County facility only), and Austin Powder Co. (all facilities) are remanded to the United States EPA for reconsideration of the employment of Class A coefficients in least stable wind conditions in rural counties.

All petitions referred to at the beginning of this opinion are denied to the extent that they attack the MAXT-24 model as to the terrain adjustment feature.

III OTHER ISSUES

We also hold that there is no merit to objections based on failure to calibrate the MAXT-24 model (or failure to reject its results because of claims of overprediction as demonstrated by some monitor readings). *See Cleveland Electric Illuminating Co., supra,* 572 F.2d at 1163-64, numbered paragraph 7.

Shell contends that its emission limitation should be expressed in terms of pounds SO_2 per hour rather than pounds SO_2 per million British Thermal Units. The Shell proposal would require the EPA either to assume that stack gas temperature and exit velocity (the important factors bearing on plume rise and thus ultimately on ground level SO_2 concentration) are relatively constant, or alternatively to monitor stack gas temperature and exit velocity. Clearly, EPA considers policing such a system to be an impossible task. EPA's formula, by contrast, requires only the use of fixed, easily ascertainable date—the plant's design-rated capacity. We regard EPA's choice of formula, which minimizes administrative costs while obeying the Clean Air Act's command to "insure attainment and maintenance" of national ambient air standards, 42 U.S.C. § 1857c-5(a)(2)(B) (1970),[4] to be within the range of the agency's discretion.

We have considered the other issues raised by Shell and find them to be without merit.

Disputes between petitioners and EPA concerning appropriate SO_2 background levels, emission data, or other fact issues will not be decided by this court until completion of the administrative review of such issues which was suggested by this court and agreed upon by the parties.

---

[4] Newly recodified at 42 U.S.C.A. § 7410(a)(2)(B) (1977 Pamphlet).

Based upon what has been said by this court in *Cleveland Electric Illuminating Co. v. EPA*, *supra*, and in this opinion, and finding no other material issues, we dismiss the following petitions *in toto*: Cincinnati Gas & Electric Co., Shell Oil Co.

Final dispositions in the petitions of Columbia & Southern Ohio Electric Co., Ohio Edison Co., and E. I. du Pont de Nemours & Co., will be entered on resolution of the remaining issues therein.

UNITED STATES COURT OF APPEALS
SIXTH CIRCUIT

Nos. 76-2090, 77-1367

THE CINCINNATI GAS AND ELECTRIC COMPANY, *et al.*,
Petitioners,
v.
ENVIRONMENTAL PROTECTION AGENCY and
DOUGLAS M. COSTLE, Administrator of the
ENVIRONMENTAL PROTECTION AGENCY,
Respondents.

June 29, 1978

Petition for Review of an Order of the
Environmental Protection Agency

Louis E. Tosi, C. Randolph Light, Fuller, Henry, Hodge & Snyder, Toledo, Ohio, Daniel W. Kemp, Cincinnati, Ohio, for petitioners.

Ronald C. Hausmann, E.P.A., Paul Kaplow, Land and Natural Resources Div., Pollution Control Section, Dept. of Justice, Washington, D.C., Mary Ann Muirhead, Region V, E.P.A., Chicago, Ill., for respondents.

John W. Edwards, Lane, Alton & Horst, Columbus, Ohio, for amicus curiae Ohio Mining and Reclamation Ass'n.

William W. Wehr, Freifield, Bruzzese, Wehr, Morland & England, LPA, Stuebenville, Ohio, for amicus curiae Ohio Coal Operators' Ass'n, Inc.

William J. Brown, Atty. Gen. of Ohio, Environmental Law Section, David E. Northrop, Asst. Atty. Gen., Columbus, Ohio, for intervenor, State of Ohio.

Before PHILLIPS, Chief Judge, and EDWARDS and PECK, Circuit Judges.

ORDER

On receipt and consideration of a motion for clarification of this court's opinion, dated February 13, 1978; and

Believing that said opinion is self-explanatory, but understanding petitioners' desire for certainty, we reprint below the specific dispositive paragraphs of *Cleveland Electric Illuminating Co. v. EPA*, 572 F.2d 1150 (6th Cir. 1978) (Nos. 76-2090 et al.), numbered in sequence of their appearance in the opinion.

1) The cases dealt with in this opinion[1] present the major general issues. Other individual cases, in ad-

---

[1] This decision dismisses the objections to the regulations *that apply to the following facilities:*

(a) Cleveland Electric Illuminating Co.—all facilities.

(b) Dayton Power & Light Co.—Montgomery County facilities only.

(c) Ohio Edison Co.—Lorain County facilities only.

(d) Toledo Edison Co.—all facilities.

(e) The Timken Co.—all steam generating units.

(f) White-Westinghouse Corp.—all facilities. (Although there was some confusion on this point in the briefs, the record makes clear that White-Westinghouse's Franklin County facility is subject to the RAM model. *See* EPA Final Technical Support Document at IV-57.)

(g) Standard Oil Co. of Ohio—Lucas County steam generating units.

(h) Interlake, Inc.—all steam generating units.

(i) Coulton Chemical Corp.—all steam generating units.

Id., at 1152 (emphasis added).

dition to presenting one or more of the general issues, also present specific issues of fact. These are reserved pending a review of and reports on the factual disputes between the United States EPA and the individual petitioners.

* * * *

2) No other material issues are presented.

3) One petition pending before this court from the Northern Ohio Lung Association attacks United States EPA's failure to promulgate a separate implementation plan for the "secondary standards" for the ambient air. This petition will be the subject of separate consideration.

4) *Simliarly, this opinion does not govern any petitions where the RAM model was not used. We do not decide any specific fact disputes raised by any petitioner as to plants other than those treated in this opinion.*[6] Decision of these cases will follow.

---

[6] *See note 1, supra.*

5) For the reasons stated above, the decision of the Administrator in imposing the SO_2 control plan is affirmed subject to the reservations indicated above.

Id., at 1165 (emphasis added).

The petitioners' Motion to Clarify, filed February 27, 1978, states accurately that this court's opinion disposed of five issues, which it stated as follows:

(1) The appropriateness of the use of RAM (raised in the joint RAM brief and incorporated by reference in the utilities' brief),

(2) The claims for needed procedural safeguards of cross examination on remand (raised in the utility brief),

(3) The economic and technical arguments (raised in the utilities' brief), and

(4) The urban/rural designation issue (raised in the utilities, brief).

(5) The urban dispersion coefficients used in RAM (raised in the joint RAM brief).

Subsequently, said petition lists the following five issues as unresolved:

(1) Failure of U.S. EPA to utilize monitor data in regulation development (utilities' brief),

(2) Improper use of Class A Assumption in the rural model (utilities' brief),

(3) Improper terrain adjustment features to the rural model (utilities' brief),

(4) Failure of EPA to correct background and data errors (utilities' brief), and

(5) Invalidity of the plan for vagueness, and failure to consider sulfur-in-coal variability (utilities' reply brief).

Issues 2 and 3 are disposed of by this court's opinion issued this date in *Cincinnati Gas & Electric Co. v. EPA*, 578 F.2d 660 (6th Cir. 1978).

Issues numbered 1 and 5 above we deem disposed of by affirmance of EPA's employment of the RAM and MAXT-24 models and the discussion in *Cleveland Electric Illuminating Co. v. EPA*, and *Cincinnati Gas & Electric Co. v. EPA.*

Issue number 4 we consider to be fact questions which are subject to agreed-on administrative review. *See Cincinnati Gas & Electric Co. v. EPA.*

For the information of these petitioners, and others, we call attention to the fact that by order dated February 9, 1978, the petition of the Northern Ohio Lung Association (No. 76-2282) was remanded to the United States EPA for further consideration. *Northern Ohio*

Lung Ass'n v. EPA, 572 F.2d 1182 (6th Cir. 1978). Additionally, as of today, an order is being entered denying the petition of the Ohio Mining & Reclamation Association and the Ohio Coal Operators' Association, Inc. (No. 77-3290) because it seeks relief which can only be had from the Congress of the United States.

As of this present date, this court considers that the United States EPA control plan for all Mahoning and Summit County facilities belonging to certain petitioners in these cases is under voluntary re-evaluation by United States EPA due to factual disputes. As these and other fact disputes are resolved, stipulations for dismissal should be submitted promptly to this court. When factual disputes cannot be resolved, the parties should make every effort promptly to stipulate the disputed issues, or, failing that, to stipulate the opposing positions of the parties on the issue or issues.

[FRL 1579-5]

RECONSIDERATION OF THE USE OF PASQUILL-GIFFORD DISPERSION COEFFICIENTS FOR STABILITY CLASS A IN SETTING EMISSION LIMITATIONS FOR FOUR OHIO POWER PLANTS; EVALUATIONS OF PUBLIC COMMENTS

On February 7, 1979, the Environmental Protection Agency (EPA or the Agency) published a notice in the Federal Register soliciting public comment on the agency's reconsideration of the use of the Pasquill-Gifford (P-G) dispersion coefficients (or curve) for class A meteorological conditions in setting emission limitations for four Ohio power plants.[1] 44 FR 7798. The agency published the notice in response to the decision of the United States Court of Appeals for the Sixth Circuit in *Cincinnati Gas & Electric Co.* v. *EPA*, 578 F. 2d 660 (1978). On June 29, 1978, the Court remanded to the Agency its decision to use the P-G dispersion coefficients for stability class A in modeling isolated rural power plants.

The modeling had been performed by EPA to set emission limitations for sources in Ohio to assure attainment and maintenance of the national ambient air quality standards for the pollutant sulfur dioxide. See 41 FR 36324, 41 FR 52455, and 42 FR 27588. The Court found that the agency had not developed an adequate record to support the use of the P-G curve for class A conditions. Moreover, the Court held that the agency had not adequately considered an alternative to the use of the P-G class A curve proposed by the utilities during the rulemaking.

---

[1] In the February 7, 1979 notice, EPA solicited comment on whether the four power plants whose emission limits were stayed by the agency's reconsideration would need more time to come into compliance. The agency will propose new compliance schedules for those plants in a separate Federal Register notice.

In response to the Court's decision, the agency reconsidered the use of the P-G dispersion coefficients for class A conditions and evaluated the utilities' proposal and the P-G class B dispersion coefficients be used in place of the class A dispersion coefficients. Based on field data not previously considered by the agency and current dispersion theory, the agency found that the utilities' proposal would severely underestimate ground level concentrations (44 FR 7798, February 7, 1979). Conversely, the agency found that dispersion theory and the Karlsruhe field data confirmed the agency's use of the P-G class A dispersion coefficients in setting emission limitations to assure attainment and maintenance of the standards. The agency, therefore, concluded that it is reasonable to use the P-G class A curve to set emission limitations for the four power plants at issue.[2]

Several utilities and utility consultants commented on the agecny's proposed decision to continue to use the P-G class A dispersion coefficients. In general, commenters challenged the agency's proposal by criticizing the Karlsruhe field study data and continuing to argue that use of the P-G class A curve on modeling sources with elevated release points such as power plants will result in unrealistically high ground level concentrations at locations unrealistically close to the source. However, in addition to their original hypothesis that the sigma-z component of the P-G class A coefficients is too large, the utilities and their consultants also argued for the first time in their comments that the sigma-y component of the P-G class A curve is too small.

---

[2] EPA review of its rural modeling analysis identified four power plants where the class A conditions determined the emission limitations. The emission limitations for all other rural power plants in Ohio were not determined by class A conditions. The four plants are Stuart (Dayton Power & Light Co.) Conesville (Columbus and Southern Ohio Electric Co.) Cardinal and Muskingum River (Ohio Power).

The utilities originally urged only one alternative to the P-G class A curve, namely to substitute the P-G class B curve for the P-G class A curve. See 44 FR 7798 (February 7, 1979). In response to the agency's notice, commenters submitted new proposed alternatives to the P-G class A curve. Specifically, they urge the use of the Brookhaven class B_2 curve, the Julich class A curve, the Briggs curve, the F. B. Smith curve, the flutuating plume model, and the smaller averaging times method.

Commenters also criticized the agency for not evaluating actual air quality data available from power plant monitoring systems. In response to this, the agency reviewed monitoring data from the John Sevier, Widows Creek, Cumberland, Muskingum River, Big Bend, East Bend, Conesville and Gibson power plants.

The agency finds that the utility comments are without merit and that the utilities have not provided any technical basis to support changing the agency's proposed finding. In fact, the monitor data which the utilities asked EPA to review support the agency's determination that it should continue to use the P-G class A curve. Moreover, the data establish that all of the utilities' proposals would underestimate maximum ground level concentrations and therefore would not assure attainment and maintenance of the standards.

In addition to the utility comments and data, the Agency reviewed the comments and recommendations of the Specialists' Conference on the EPA Modeling Guideline, ANL (1977), the American Meterological Society (AMS) Workshop on Stability Classification Schemes and Sigma Curves, Hanna et al. (1977), and the National Commission on Air Quality Atmospheric Dispersion Modeling Panel, NCAQ (1980). These scientific groups recommended additional study of the effects of tall stack plume characteristics on ground level concentrations and the suitability of the P-G curves for tall stack sources. The Specialists Conference suggested that a possible result from such additional study "might include the elimination of the A curve and the use of the B curve for both A and B stability categories." See § 2.7.5 "Vertical Dispersion Estimates." The AMS Workshop, on the other hand, recommended the use of the Brookhaven curves, rather than the P-G curves, for elevated sources.

The agency has studied the use of the P-G class A dispersion coefficients and evaluated both suggested alternatives as part of its response to the Court's remand. Based on EPA's study, the agency has determined that the available data demonstrate that the P-G class A disperson coefficients are reasnable means of setting emission limitations that will assure attainment and maintenance of the national air quality standards. In contrast, the available data establish that the suggested alternatives underpredict ground level concentrations and therefore can not provide a means to set emission limitations adequate to assure attainment and maintenance of the standards.

As stated in the February 7 notice, it is not the agency's contention that better methods of representing dispersion should not be used when available and justified. 44 FR 7805. In fact, the agency continues to research this area. However, the agency has not yet developed a more accurate means for predicting ground level concentrations near rural power plants during class A meteorological conditions than the P-G class A dispersion coefficients.

A. Original Utility Challenges, the Class B Alternative, and the EPA Proposal

During the rulemaking on the sulfur dioxide emission limitations, the utilities contended that the P-G class A dispersion coefficients, which were developed from field studies of emissions released near ground level, were inappropriate for use in modeling power plants with tall stacks

Specifically, the utilities hypothesized that the P-G sigma-z values (controlling vertical dispersion) for class A conditions were too large for estimating ground level pollution concentrations caused by sources with tall stacks.[3] The utilities contended that use of the P-G class A sigma-z values for power plant modeling resulted in overpredicting ground level concentrations.

However, as was explained in the February 7, 1979 notice, experimental research suggests that the sigma-z values should be as large or larger for elevated releases as compared to the sigma-z values for near ground level releases. *See Panofsky* (1978). *Vogt, et al.* (1978) and *Weil* (1978). Moreover, current dispersion theory is that sigma-z values for emissions over rough terrain should be equal to or larger than the sigma-z values for emissions over smooth terrain. *See F.B. Smith* (1973) and *Pasquill* (1974). 44 FR 7798. This is significant in that the original field experiments used to derive the P-G sigma-z values were conducted over prairie grass fields (relatively smooth terrain with a characteristic surface roughness length of less than 0.03 meters (m)) which are much smoother than the average terrain where the Ohio power plants are situated (surface roughness length is in the range of 1.0 m).

In evaluating the utilities' challenge to the class A sigma-z values and their recommendation of P-G class B, the agency reviewed the sigma-z values for the most

---

[3] Each set of dispersion coefficients include a value representing the vertical dispersion of the pollutant (sigma-z value) and a value representing the horizontal dispersion (sigma-y value) in EPA's CRSTER modeling each class of meteorological conditions is associated with a different set of dispersion coefficients Class A meteorological conditions are the most unstable(very light and variable winds, clear sky and well developed mixing layer). Class B through F represent increasingly more stable atmospheric conditions.

unstable meteorological conditions which were determined by three different experimenters in three different dispersion field studies. Table 1 in the February notice sets forth the sigma-z values derived by the Brookhaven, Julich and Karlsruhe experiments. 44 FR 7800. Unlike the Pasquill-Gifford experiment, each of these experiments involved elevated releases of tracer (approximately 100 m) over terrain with surface roughness length of approximately 1.0 meters. These experiments, therefore, more closely approximated the elevated release points and terrain characteristics of the Ohio power plants.

The comparison of sigma-z values from these three experiments with the sigma-z values in the P-G class A and B curves showed that under unstable meteorological conditions all three experiments measured sigma-z values larger than the sigma-z values associated with the P-G class B curve.[4] *See* Table 1, 44 FR 7800. The data demonstrate that use of the P-G class B curve as a substitute for class A would necessarily underpredict maximum ground level concentrations reached during class A conditions. Emission limitations based on the class B curve, therefore, would not assure attainment and maintenance of the standards. In short, without an analysis using the P-G class A dispersion coefficients, the agency would not be sure of setting emission limitations which would protect the standards during periods of unstable meteorological conditions.

In addition, the agency noted that the Karlsruhe field experiments determined sigma-z values during class A conditions as large or larger than the P-G class A sigma-z values. The Karlsruhe data therefore confirm the P-G class A sigma-z values and the resulting ground level concentrations. The Karlsruhe experiments also confirm the general locations of maximum ground level concentrations predicted by using the P-G class A dispersion coefficients. 44 FR 7801. The agency therefore found that the Karlsruhe data supported the use of the P-G class A dispersion coefficients in setting emission limitations for rural power plants.

---

[4] The Brookhaven sigma-z values set forth in Table 1 are for BNL class B_2 meteorological conditions which are more stable than class A conditions. 44 Fed. Reg. 7800 Brookhaven experimenters did not derive sigma-z values for the most unstable stability class (class A).

B. Utility Comments on EPA's Proposal

During the comment period, the utilities repeated their earlier contention that use of the P-G class A curve for rural power plants would result in model overprediction and overly stringent emission limitations. The utilities criticized the agency's support for the use of the P-G class A curve and suggested other alternatives which like their original P-G class B proposal, would calculate lower maximum ground level concentrations than using the P-G class A dispersion coefficients. The utilities also urged the agency to review any available monitoring data recorded near power plants as a means of verifying the accuracy of the P-G class A dispersion coefficients.

In response to this comment, the agency gathered the available monitoring data suggested by comments and reviewed it. Based on that review, the agency determined that most of the available data is not relevant for evaluating the predictive accuracy of the P-G class A dispersion coefficients because of the placement of the monitors or because a supplementary control system was used. However, the agency did compare all of the relevant utility monitoring data with P-G class A modeling predictions. The agency found that actually measured sulfur dioxide concentrations during class A conditions are as high or higher than the maximum predictions calculated for the same monitor site using the P-G class A dispersion coefficients. Actual utility data, therefore, supports the agency's use of the P-G class A dispersion coefficients for modeling power plants in rural areas.

1. *Utility Monitoring Data*

Agency review of power plant monitoring data as suggested by the commenters demonstrated that few of the monitors were located at distances less than 2 km from the source where maximum concentrations under class A meteorological conditions are expected to occur. EPA model anlyses using the P-G dispersion coefficients for the four Ohio power plants predicted maximum concentrations under class A conditions at distances 1.0 to 1.3 km from the plant.[5] Therefore, to verify the accuracy of P-G class A model predictions, measurements from monitors located close to the source are required.

The agency also found that several of the power plants having monitors within 2 km of their stacks use supplementary control systems.[6] This means that the plants reduce their emission rate during periods of expected high ground level pollution. An effective supplementary control system reduces ground level concentrations that would otherwise occur under class A conditions without the use of such a system. Appropriate comparison of model predictions with monitor observations for these plants (where operating loads are reduced) requires the use of data reflecting the actual operation of the plants. Such data, including actual hourly emissions and stack effluent characteristics data and on-site meteorology, are not readily available. Each of the model analyses the agency has performed in evaluating available data has relied on maximum operating load and national weather service meteorological data. The agency, therefore, could not use the data influenced by the use of supplementary control systems to evaluate the predictive accuracy of the P-G class A curve.

---

[5] The Karlsruhe data confirmed that maximum concentrations under class A conditions occur within 1-5 km of the release point. 44 FR 7796.

[6] The TVA plants at Widows Creek and Cumberland and the PSI Gibson plant use such systems.

Based on these considerations, the agency determined that data from two power plants—TVA's John Seiver power plant and Ohio Power's Muskingum River plant—could be used to evaluate the predictive accuracy of modeling with the P-G class A dispersion coefficients. See Table 2. In addition, the agency found that data from the monitoring system at the Muskingum River plant could be used to check the model's prediction of the locations of maximum concentrations under class A conditions.

a. *Accuracy of model predicted maximum concentrations using P-G class A dispersion coefficients.*—In order to evaluate the accuracy of model predictions using the P-G dispersion coefficients for class A stability, the agency modeled the John Seiver and Muskingum River power plants. The agency used the MPTER model with full load operating data provided by the power plants and at least six years of meteorological data.[7] The agency calculated the highest and second highest 3-hour ground level concentrations at the monitor sites for each year of meteorological data. See Table 3. The agency then compared these model predictions with the highest and second highest concentrations actually observed in a 3-hour period during each of monitor operation. This comparison showed that the monitors recorded maximum concentrations of sulfur dioxide as high or higher than the maximum concentrations calculated by the model using the P-G class A dispersion coefficients.

At John Sevier, the monitor has recorded sulfur dioxide concentrations for six years. In four of the six years, the monitor recorded higher maximum concentrations than the model calculated for any of the six years of meteorological data.[8] Maximum levels of. 45, .40, .43,

---

[8] Comparisons of monitor observations with model calculations using meteorological data for identical years were performed for 1973 and 1974 at the John Sevier monitor Meteorological data were not available for identical years to make such comparisons for additional years.

.34, .23 and .17 ppm (parts per million) were actually recorded. See Table 3. The model using the P-G class A curve predicated a maximum of .32 ppm at the same location. Second highest maximum concentration levels of .39, .39, .31, .30, .22, and .16 ppm were recorded in the six years of monitoring compared to the highest model predicted second high maximum of .32 ppm.

At Muskingum River, the monitor has recorded sulfur dioxide measurements for only two years. In those two years, the monitor measured maximum concentrations of .63 and .39 ppm, while the model calculated a maximum concentration of .55 ppm based on seven years of meteorological data. The monitor recorded second high maximum concentrations of .41 and .20 ppm, compared to the highest second high model prediction of .43 ppm.

Actual power plant measurements, therefore, compare well with model calculations of maximum ground level concentrations using P-G class A dispersion coefficients. Moreover, the comparison establishes that the agency's modeling using P-G class A curves does not predict unrealistically high concentrations; rather, the agency's modeling accurately predicts sulfur dioxide concentrations for class A meteorological conditions.

b. *Accuracy of model predicted locations of maximum ground level concentrations using P-G class A dispersion coefficients.*—The agency's modeling using the P-G class A dispersion coefficients predicted that maximum ground level concentrations would occur between 1 and 1.3 km from the source. Utilities challenged this contending that for elevated sources maximum concentrations will occur further out from the source. The utility monitoring data, however, confirm the P-G class A predictions.

Data from the Muskingum River monitor system can be used to investigate the location of maximum concentrations during class A meteorological conditions. At the Muskingum River plant, four of the six continuous SO_2

monitors are located along a relatively straight line in a northeasterly direction from the plant. The monitors are located at distances of 1.7 km, 4.6 km, 8.5 km and 20.7 km from the plant along this radial. See Table 4. Review of the monitoring data shows that the highest 3-hour ground level concentration recorded by these monitors was observed at the monitor closest to the plant. See Table 5. Moreover, review of meteorological conditions during this period shows that the maximum concentration occurred during class A conditions. In contrast, the maximum impacts observed at monitors located further from the plant generally occurred during periods of more stable (greater cloud cover and/or higher wind speed) meteorological conditions.

The Muskingum River data, therefore, establish that maximum concentrations do occur as close to the source as predicted by the model using the P-G dispersion coefficients under class A conditions. Based on review of the utility monitoring data, the agency finds that modeling with the P-G dispersion coefficients accurately predicts the magnitude and location of maximum ground level concentrations from power plants with tall stacks.

2. The Utility Challenge to the Karlsruhe Data

As explained in the February 7, 1979 notice, the agency found that data from the Karlsruhe field experiments support the use of the class A dispersion coefficients. 44 CR 7801. The Karlsruhe field experiments as reported by *Thomas et al.* (1976) and *Thomas and Nester* (1976), measured ground level concentrations of two dispersion tracers, tritium (H_3) and halogenated hydrocarbons (CCl_4), released from 10 meter heights over terrain similar to the terrain surrounding the four Ohio power plants. Based on the measured ground level concentrations, sigma-z and sigma-y values were derived. Since the original utility challenge focused on the sigma-z values for the P-G class A curve, the agency compared sigma-z values and found that the Karlsruhe experimenters derived sigma-z values for class A conditions comparable to the P-G class A sigma-z values. See Table 1 and Figures 1-3, 44 FR 7800, 7800-3. The agency concluded that the Karlsruhe experimental data confirm the general level and location of maximum ground level concentrations predicted by using the P-G dispersion coefficients (sigma-z and sigma-y) for class A meteorological conditions. See Figures 4-6, 44 FR 7803-4.

The utilities commented that the agency should not rely on the Karlsruhe data. They fault the Karlsruhe experiments for not using what the commenters contend are more advanced procedures and methodology in determining ground level concentrations and in deriving the dispersion coefficients.[9] They commented that the Karlsruhe data are therefore suspect. However, commenters did not point to any data to support their contention that the procedures actually used in the Karlsruhe experiments would result in unreliable data. On the contrary, as discussed above, utility monitors have actually measured maximum concentrations as high or higher and as close to the source as predicted by the P-G class A dispersion coefficients. This monitor data confirm the Karlsruhe results as well as the use of the P-G class A dispersion coefficients.

Moreover, additional Karlsruhe dispersion field studies reported in 1979 employed some of the experimental procedures suggested by commenters and released tracer from 195 meters. This data confirmed the earlier Karlsruhe results. Therefore, there is no basis for concluding that the Karlsruhe experimental procedures in any way resulted in false measurements. See *Kiefer and Koelzer* (1979).

---

[9] In fact, the utility criticisms are contrary to their willingness to accept the results of the Brookhaven and Julich experiments or even the Pasquill-Gilford (for class B curves), all of which used experimental procedures similar to or less advanced than the Karlsruhe procedures.

Specifically, commenters criticized the Karlsruhe experiments for using non-bouyant tracer materials, a 100 meter release height, a manual sampling and collection system instead of an automated system,,for analyzing air samples dissolved in toluene rather than directly sampling the air for measuring ground level concentrations and deriving the sigma-z values from those measurements, rather than directly measuring sigma-z values, and for the mathematical analysis procedures chosen to derive the sigma-z and sigma-y values. Each of these criticisms is discussed below.

a. *Non-buoyant tracer and 100 m release height.*—The utilities criticized the Karlsruhe experiments for using a non-bouyand tracer released at 100 m meters. The utilities point out that bouyant plumes, such as those released from power plant stacks, normally attain heights much higher than 100 meters (200-1,000 meters or more). The utilities commented that unstable temperature gradients and building downwash would effect a non-buoyant tracer released at 100 meters, increasing the verticle dispersion of the tracer. Commenters argue that the vertical dispersion rates (sigma-z values) derived from the experiments would be too large for power plant plumes.

However, the utility comment is contrary to both actual monitor data and dispersion theory. First, the utility monitor data demonstrate that under class A conditions, maximum concentrations as high or higher than calculated using the P-G class A curve and as close to the power plant as predicted by the P-G class A curve have been recorded. This data therefore confirm the use of the sigma-z values derived by the Karlsruhe experiments as well as the P-G class A sigma-z values.

Second, experimental research indicates that the vertical dispersion of power plant plumes increases with height. The rate of verticle dispersion of the plume does not decrease once the plume rises to levels where the temperature gradients are more stable but rather remains constant or continues to increase. See *Irwin* (1979). The sigma-z values therefore should not be smaller for sources with elevated releases as compared to source releases near ground level. See also *Panofsky* (1978), *Vogt et al.* (1978), 44 FR 7799.

Finally, the later Karlsruhe dispersion field studies, using a 195 meter release height, confirmed the large sigma-z values measured by the earlier Karlsruhe experiments and the P-G class A sigma-z values. In these later Karlsruhe experiments, tracer was released from 195 meters, a higher release point than used for any of the alternative curves proposed by the utilities. See Table 1. The 195 m Karlsruhe experiments therefore are the most appropriate experimental work for evaluating dispersion coefficients for power plants.[10] These later experiments measured vertical dispersion rates (sigma-z values) at distances greater than 1.3 km which were larger than the rates derived from the earlier 100 meter experiments. The data therefore contradicts the utility contention and support the earlier Karlsruhe results and the P-G class A sigma-z values. See *Kiefer and Koelzer* (1979).

b. *Manual sampling and collection system.*—Commenters criticized the Karlsruhe experiments for using a manual sampling and collection system. However, commenters offer no data to show that an automated system would result in different measurements. In fact, the later Karlsruhe field studies used an automated sampling and collection system and the results confirm the earlier Karlsruhe results. See *Kiefer* and *Koelzer* (1979).

---

[10] Additional experimental studies were also conduced at 80, 100 and 160 meters. See *Kiefer and Koelzer* (1979). Results from the 195 m studies most closely approximate dispersion of pollutants from tall stack sources such as power plants. The agency therefore has relied upon the results of the 195 meter experiments in preference to the others.

c. *Use of toluene in sample analysis.*—Commenters criticized the sample analysis method used by the Karlsruhe experiments. Specifically, the commenters criticized the technique of dissolving the sampling in toluene before analysis and commented that a direct analysis would be more reliable. Commenters, however, do not demonstrate that direct analysis of the air sample would be more reliable than the technique used in Karlsruhe. The use of toluene in the analysis technique is necessary in order to remove all of the tracer from the collecting glass vessel and assure measurement of the entire sample. In fact, the methodology used by the Karlsruhe experimenters is an accepted experimental technique and there is no basis to conclude that it results in faulty data.

d. *Deriving sigma-z values from ground level concentrations.*—Commenters also criticized the Karlsruhe experimenters for deriving the dispersion coefficients from ground level concentration measurements rather than making direct measurements of the sigma-y and sigma-z values. However, none of the dispersion field studies reviewed by the agency, including Brookhaven and Julich, measured sigma-z and sigma-y values directly. Commenters do not point to any dispersion studies which made direct measurements of sigma-y and sigma-z values under unstable conditions. It is simply too costly to make direct measurements under unstable meteorological conditions. Therefore investigators have traditionally derived the sigma-z and sigma-y values from ground level tracer concentration measurements.

Commenters also failed to provide any data or theory to establish that direct measurements would lead to different results. In short, while it might be preferable to determine dispersion coefficient values under very unstable conditions directly, as a practical matter, it is not done.

e. *Mathematical analysis procedures.*—One commenter criticized the mathematical method the Karlsruhe experimenters used to derive the sigma-y and sigma-z values. The Karlsruhe experimenters used a method of determining dispersion coefficient values which smoothed out the variation in ground level concentrations expected under class A conditions. See *Thomas and Nester* (1978). The commenters applied two different mathematical methods to the Karlsruhe data and derivied smaller sigma-y values than the Karlsruhe experimenters. However, the commenter chose methods which do not take into account the expected variations in concentrations under class A conditions. Both the second moments and the cross-wind integrated ground level concentrations methods are more appropriate for data sets with little variation. The inappropriateness of these methods is confirmed by the commenter's calculation of sigma-y values which decreased with distance from the source. Such a result is contrary to the law of atmopheric physics that the horizontal distribution of a plume can not decrease with distance.

f. *Other comments on the Karlsruhe data.*—Commenters made several other comments criticizing the Karlsruhe data. One commenter cited the fact that in experiment number 19.2, the Karlsruhe experimenters measured different ground level concentrations of simultaneously released tracers at co-located samplers. However, commenters do not provide any data or theory to establish that the different measurements indicate faulty data. In fact, the 10-30 percent variation in sigma-z values derivied from these two measurements establish that the variations in concentrations was small.

One commenter cited the fact that high background levels of the tracer were measured during time periods when the experimenters indicated that the wind was not transporting tracer in the direction of the monitor. The commenter argues that this fact demonstrates the inaccuracy of the experimental sampling system. However, analysis of the cited time periods shows that while tracer was not transported *directly* to the sampling site, tracer materials were transported to the site by an indirect path resulting from the changing wind direction. Therefore, the tracer concentrations measured during these periods of changing wind direction are as would be expected and do not indicate any experimental inaccuracy.

Another commenter criticized the Karlsruhe experiments because the distribution of crosswind concentrations for the individual experimentation periods did not fit perfect Gaussian curves and the maximum measured concentrations did not fall on a straight line from the tracer release point. Both of these criticisms assume unrealistic experimental results. Given the variations expected in measurements made in a single experimentation period of 20 to 30 minutes, a perfect Gaussian distribution is simply not expected. Moreover, given the changing transport wind associated with class A meteorological conditions, maximum concentrations would not be expected to follow a straight line. Rather, concentration measurements in a single experimentation period would be expected to vary from a perfect Gaussian curve and from a straight line from release point and this is exactly what happened.

Another commenter criticized the Karlsruhe data because some measurements fell outside the confidence limits specified by the experimenters. By definition, a percentage of the measurements are expected to fall outside the confidence limits. There is, however, no indication and the commenter does not establish that the number of measurements falling outside confidence limits indicates that the experiments were deficient.

One commenter criticized the Karlsruhe data because the ratio of sigma-z values to sigma-y values is greater than one. The commenter contends that this indicates that the sigma-z values are too large. However, the commenter does not support his assumption that this ratio should equal one for the unstable meteorological conditions associated with class A stability. Under the commenter's assumption, the vertical distribution of the plume would equal the horizontal distribution. However, under class A conditions greater vertical than horizontal turbulence would be expected due to the convective forces associated with unstable meteorological conditions. Therefore, a ratio of sigma-z to sigma-y values which is greater than one would be expected and is exactly what was determined at Karlsruhe.

One commenter used two different theories to calculate sigma-z values from some of the Karlsruhe data. Again, the result was to derive smaller sigma-z values from the Karlsruhe data. The commenter based the derivation on the publications of Irwin (1979) and Smith (1968). Both Irwin and Smith have developed a relationship between the standard deviation of the wind elevation angle and the plume dispersion coefficients. The commenter applied the theories to elevation angle data from the Karlsruhe experiments and derived smaller sigma-z values than the Karlsruhe experimenters derived from their measurements. However, the utility monitor data discussed above demonstrate that the sigma-z values derived by Karlsruhe and the P-G class A sigma-z values are not too large. In other words, use of smaller sigma-z values would conflict with actual monitor data.

Another commenter used the Karlsruhe data to derive different dispersion coefficients than those derived by the Karlsruhe experimenters. The commenter used his version of the Karlsruhe dispersion coefficients to make a comparison with P-G class A and class B dispersion coefficients. However, the commenter does not explain or support his reworking of the Karlsruhe data. In the February notice, the agency used the Karlsruhe dispersion coefficients exactly as derived and reported by the Karlsruhe experimenters. Moreover, the utility monitor data confirms the Karlsruhe results. There is no reason to manipulate the Karlsruhe data and comparisons based on the manipulated data are inappropriate.

Commenters also criticized the agency for considering Karlsruhe experiment number 19.2 and not considering experiments number 19.1 and 19.3. Commenters contend that experiment number 19.2 was not conducted under class A conditions and that experiments number 19.1 and 19.3 were both class A experiments which should have been considered.

In determining which experiments to consider as class A experiments, the agency used the classification of experiments set forth by the Karlsruhe experimenters. The Karlsruhe experimenters listed the class A experiments in Table 1, *Thomas and Nester* (1976). Experiment 19.2 was listed as class A based on the wind profile, even though the vertical wind fluctuation and temperature gradients factors were more class-B like. Moreover, the dispersion coefficients derived from experiment 19.2 clearly fit in the class A category. See Table 1, 44 FR 7800 (February 7, 1979). Therefore, it was appropriate for the agency to consider the results of experiment 19.2. Experiments 19.1 and 19.3, on the other hand, were not listed by the Karlsruhe experimenters as valid class A experiments. During the sampling period, the wind carried the tracer material away from the sampling network. Therefore, dispersion coefficients could not be developed from the ground level concentration measurements because the tracer material was transported where there were no samplers. The Karlsruhe experimenters simply could not use these two experiments. See *Thomas and Nestor* (1976).

Finally, commenters criticized the small number of class A experiments conducted at Karlsruhe. In the earlier Karlsruhe experiments, only two numbered experiments (9 and 19) were conducted for which sigma-y and sigma-z curves were developed by the investigators. Commenters suggested relying on the Brookhaven or Julich sets of curves which they contend were based on larger numbers of experiments. However, the Brookhaven curves were not based on any class A experiments and the Julich curves were derived from two class A experiments.

Review of the literature on the Brookhaven experiments indicates that no curves were developed for the most unstable class of conditions, class A. *See* Singer and Smith (1966) and Smith (1973). According to the original investigators, because the experiment site is located on Long Island near the ocean, both the frequency and duration of class A conditions is diminished. That is, the sea breeze prevents extended periods of low wind speed necessary for class A conditions. Singer and Smith however did develop a set of curves for sigma-y and sigma-z which are based on more stable atmospheric conditions. The most unstable class of conditions for which curves were developed by the Brookhaven investigators was the class labeled B2. While the Julich experimenters developed class A curves, they were based on the same number of experiments as the early Karlsruhe experiments.

Neither the Brookhaven nor Julich curves are based on more experiments than the Karlsruhe curves. Furthermore, the more recent 195 m Karlsruhe experiments, which better approximate the tall stacks of the Ohio power plants than either the Brookhaven or Julich experiments, added to the number of Karlsruhe experiments on Class A. The 195 m experiments confirm the results of the earlir 100 m experiments at Karlsruhe. Therefore, the Karlsruhe class A curves are based on more experiments and better approximate the heights of tall stack plumes than any of the available alternatives.

3. The Challenge to the Sigma-y Values

In addition to the original hypothesis that the P-G class A sigma-z values are too large, commenters submitted a new hypothesis: the sigma-y values (the horizontal dispersion factors) in the P-G class A curve are too small.[11] Commenters base their hypothesis on the contention that larger sigma-y values are necessary to accurately calculate one hour average maximum ground level concentrations. Again, this contention conflicts with the utility monitor data. In fact, the utility monitors have recorded levels higher than the levels predicted by using the P-G class A dispersion coefficients. Therefore, based on the utility monitor data, use of larger sigma-y values would necessarily underestimate maximum ground level concentrations and could not be used to set emission limitations that would assure attainment and maintenance of the standards.

Commenters' criticism of the P-G class A sigma-y values rests on the fact that the values were derived from tracer measurements of three to fifteen minutes in length. Commenters postulate that one-hour tracer measurements (resulting in larger sigma-y values) would more accurately estimate maximum one-hour average ground level concentrations. Based on this hypothesis, commenters urge the agency to use a time scaling factor to increase the P-G class A sigma-y values. However, the utility monitor data establish that sigma-y values derived from three to fifteen minute measurements accurately estimate maximum one-hour ground level concentrations. Based on the utility monitor data, as well as the Karlsruhe data, the agency finds that sigma-y values larger than the P-G class A sigma-y values should not be used to set emission limitations for Ohio power plants.

---

[11] Larger sigma-y values mean greater horizontal dispersion of the pollutant. Smaller sigma-z values mean less vertical dispersion and more channeling of the pollutant out to further distances before it reaches ground level. Either greater horizontal dispersion or less vertical dispersion of a plume would result in lower ground level concentrations.

4. The Proposed Alternatives

In response to the agency's February notice, commenters have also suggested new alternatives to the P-G class A dispersion coefficients. Previously, the utilities proposed the use of the P-G class B curve in place of the P-G class A curve. In addition to the P-G class B curve, commenters suggested that the Brookhaven class B_2 or the Julich class A curve also would be acceptable substitutes for the P-G class A dispersion coefficients. Commenters also proposed using curves developed by Briggs and F. B. Smith. One commenter suggested the use of a fluctuating plume model and a method of calculating concentrations with smaller averaging times as a substitute for the agency's modeling using the P-G class A curve.

All of the proposed alternative curves would calculate lower maximum ground level concentrations than the P-G class A dispersion coefficients would calculate. The fluctuating plume model and the smaller averaging time methodology also calculate lower maximum ground level concentrations than the agency's modeling using the P-G class A dispersion coefficients. The agency, however, finds that its use of the P-G class A dispersion coefficients has been confirmed by the utility monitoring data. There is simply no basis for substituting the P-G class A curve with any of the suggested alternatives. Nevertheless, the agency has evaluated each of the proposed alternatives. That evaluation is set forth below.

a. *Brookhaven class B_2 and Julich class A curves.*— Both the Brookhaven class B_2 and Julich class A curves would calculate lower maximum ground level concentrations than the P-G class A curve calculates. This is because both experiments derived sigma-z values smaller than the P-G class A sigma-z values and sigma-y values as large or larger than the P-G class A sigma-y values. A smaller sigma-z value means less vertical spread of the plume, namely, the plume is carried farther from the source before it reaches ground level. The concentration of the pollutant decreases with the distance traveled. A larger sigma-y value means greater horizontal spread of the plume which also decreases concentration of the pollutant.

In the February 7, 1979 notice, the agency discussed sigma-z values derived by the Brookhaven, Julich and Karlsruhe experiments for unstable meteorological conditions. The agency compared the sigma-z values with the P-G class A and class B sigma-z values. Table 1, 44 FR 7780, and Figure 2. This comparison established that the Karlsruhe experiments had derived sigma-z values as large or larger than the P-G class sigma-z values. In contrast, the Julich and the Brookhaven experiments derived smaller sigma-z values for unstable conditions than either the Karlsruhe or the P-G class A sigma-z values.

In response to comments on the February 7 notice, the agency made a similar comparison of the sigma-y values determined by these same experimenters. See Figure 1. This comparison establishes that the Julich class A sigma-y values are much larger than either the Karlsruhe or P-G class A sigma-y values for distances greater than about 0.4 km. In contrast, Brookhaven class B_2 sigma-y values are in fairly close agreement with the P-G class A sigma-y values.

In order to evaluate the effects of the different sigma-y and sigma-z values on calculations of ground level concentrations, the agency compared the maximum normalized concentrations and the distance to maximum impacts calculated by each set of dispersion coefficients. See Figure 3. The results of these comparisons demonstrate that the P-G class B, Julich class A and Brookhaven class B_2 all calculate lower maximum ground level concentrations than calculated by either the P-G or Karlsruhe class A curves. In addition, these curves calculate maximum concentrations at distances farther from the source than calculated by either the P-G or Karlsruhe class A curves. See Figure 4. Based on the utility monitor data which confirm the agency's use of the P-G dispersion coefficients, the agency finds that use of the Brookhaven class B_2 or the Julich class A curves would underestimate maximum ground level concentrations and could not be used to set emission limitations which would assure attainment and maintenance of the standards.

b. *Briggs and F. B. Smith curves.*—Commenters also suggested that the agency use curves developed by Briggs and F. B. Smith in place of the P-G class A curves. However, the agency finds that both suggestions are without merit. According to Briggs (1979), the Briggs curve is based on the Brookhaven class B_2 curve for distances greater than 500 meters from the source (where sigma-z equals about 100 meters). Since maximum concentrations under class A conditions are expected to occur at distances greater than 500 meters, the Briggs curve is equivalent to the Brookhaven class B_2 curve and is unacceptable for the reasons discussed above.

The F. B. Smith curve is a theoretically developed curve which was specifically developed for ground level sources. It utilizes smaller sigma-z values than the P-G class A sigma-z values. As discussed above, use of smaller sigma-z values than the P-G class A values would result in the underprediction of maximum ground level concentrations. The agency, therefore, could not rely on the F. B. Smith curve to set emission limitations which would assure attainment and maintenance of the standards.

c. *A fluctuating plume model and smaller averaging times method.*—One commenter proposed the use of a "fluctuating plume model" as the use of averaging times smaller than one hour to calculate concentrations. Both would result in lower maximum ground level concentrations than the P-G class A curves. Based on the utility monitor data, the agency finds that these suggestions therefore are inappropriate.

A fluctuating plume model is a Gaussian-type dispersion model (like the agency's CRSTER model); however, modeling assumptions in the fluctuating plume model increase the horizontal dispersion of the plume and result in lower calculated maximum ground level concentrations than would be calculated using CRSTER with the P-G class A dispersion coefficients. In effect, the fluctuating plume model is like using the agency's model with a larger sigma-y dispersion coefficient. As discussed above, sigma-y values larger than the P-G class A sigma-y values would result in lower ground level concentrations. The utility monitor data establishes that larger sigma-y values would necessarily cause underpredictions of sulfur dioxide levels.

The same commenter also suggested a technique of calculating one-hour ground level concentrations by using segmented averaging periods smaller than one hour. The commenter's method calculates a one-hour average by summing and averaging 20-minute average concentrations rather than calculating one-hour average concentrations. This technique results in lower ground level concentrations. However, the commenter does not provide any data to support the contention that using 20-minute averages will result in more accurate ground level concentrations. In fact, this contention is contrary to the utility monitor data which shows that the summing and averaging of one-hour average calculations used in EPA's modeling are accurately predicting maximum three-hour ground level concentrations.

5. Other Data Submitted by Commenters

The following data were submitted or referenced by commenters in support of the allegation that use of the P-G class A coefficients results in overpredictions. However, upon review, the agency found that the data are either not relevant to the predictive accuracy of the P-G class A dispersion coefficients or do not support the commenter's contention.

a. *TVA data.*—Several commenters recommended that EPA review monitoring and modeling data available from three TVA power plants, Paradise, Johnsonville and John Sevier. In addition, one commenter submitted a document prepared by a utility consultant entitled "Summary Report: A comparison of predicted and measured sulfur dioxide concentrations at the Paradise, Johnsonville and John Seiver power plants."

Review of the data for these three power plants demonstrate that only one plant [John Sevier] had a monitor located at a distance where maximum ground level concentrations would be expected to occur during class A meteorological conditions.[12] Therefore, there is only one TVA monitor from this study which provides data which can be used to evaluate the accuracy of dispersion models in simulating class A ground level concentrations. Data from that monitor has been used and it confirms the P-G class A predictions. See agency's evaluation of the Sevier data in section 1.

The Agency also reviewed the utility consultant's report and found the information so incomplete as to make evaluation of the purported results impossible. In addition, since the report does not evaluate model predictions during class A conditions or investigate the accuracy of dispersion coefficients, any conclusions regarding the accuracy of the P-G class A dispersion coefficients would be inappropriate.

---

[12] This monitor was located at 1.86 km at an asimuth of 227 degrees from the plant.

b. *Muskingum River data.*—One commenter cited Mills' validation study of the CRSTER model, "Improvements to the Single Source Model, Volume 3: Further Analysis of Modelling Results" (1977), as evidence that the model overestimated concentrations for class A conditions. The study was performed during 1976 at the Muskingum River power plant. However, at the time the study was done, the closest monitor to the Muskingum River plant was 4.6 km away. The next closest monitor was 5.2 km away. Both were located too far from the source to measure high concentrations caused during class A meteorological conditions. EPA's modeling for Muskingum River demonstrated that the class A concentration which dictated the power plant's emission limitation occurred at a receptor located at 1.3 km from the plant in a completely different direction from the two monitors. Therefore the monitoring data from the 1976 study do not evaluate the predictive accuracy of the P-G class A dispersion coefficients.

In January of 1978 the Muskingum River monitor network was expanded to include a monitor at 1.7 km from the plant. High concentrations would be expected at this distance during class A meteorological conditions. EPA reviewed the data from the new monitor and found that the SO_2 concentrations recorded confirmed the use of the P-G class A dispersion coefficients. See discussion of Muskingum data in Section 1.

c. *Big Bend.*—One commenter recommended that EPA review Vaughan's 1978 study of the Big Bend power plant. The commenter alleges that Big Bend field data were obtained under conditions more analogous to the Ohio power plants than the conditions at Karlsruhe. Based on Vaughan's analysis of the Big Bend data, the commenter contends that the P-G class A sigma-z values are too large and that P-G class B or P-G class C sigma-z values would provide a better estimation of vertical dispersion.

However, the Big Bend power plant is located near Tampa, Florida on the Gulf of Mexico. Review of the study establishes that atmospheric conditions at the Big Bend plant during the field study period were significantly effected by its location near the Gulf. A large body of water often has a stabilizing influence on atmospheric conditions near the shoreline. The unstable meteorological conditions associated with class A stability were suppressed during the period of time the field study was conducted. Therefore, most of Vaughan's observations were for neutral or near neutral conditions. For this reason, the field data collected in the Big Bend study are simply not relevant to the predictive accuracy of the P-G class A sigma-z curve.

Moreover, it is not surprising that Vaughan found that the sigma-z values of P-G class B and P-G class C provided a good fit to the data collected at Big Bend. Since most of the observations were made during neutral conditions, P-G class B, C or D would theoretically better approximate these conditions. This, however, does not indicate that the P-G class A sigma-z values are in any way deficient.

d. *East Bend.*—One commenter submitted a comparison of theoretically determined sigma-z values for the *proposed* site of the East Bend power plant with sigma-z values determined by the P-G class A and class B curves. The commenter contends that this comparison shows that the P-G class A sigma-z values are too large and that the P-G class B values compare favorably to the theoretically determined values.

However, the commenter used a theoretical means of determining dispersion coefficients which the agency is developing and which is still in the experimental stage and unverified. The Agency's ongoing research in the area of dispersion coefficients was discussed in the February 7, 1979 notice (44 FR 7805). The Agency is researching a method of determining dispersion coefficients from on-site measured meteorological data. Accurate application of the methodology depends on the use of exact meteorological measurements. Contrary to specific EPA guidance on the data required, the commenter collected and used data which did not meet these requirements. The commenter's theoretical comparison employing an unverified experimental scheme, therefore, is faulty and does not indicate that the P-G class A sigma-z values are inaccurate.

e. *Gibson data.*—One commenter submitted a comparison of model predicted values under P-G class A conditions with monitored values measured at the Gibson power plant in southwestern Indiana. The commenter concluded that the comparison showed predicted concentrations were significantly higher than the actually measured levels. Review of the Gibson data shows that only one of the three Gibson monitors is located at a distance where maximum ground level concentrations would be expected to occur during class A meteorological conditions. This monitor is located at 1.8 km from the plant. However, even for the relevant monitor, the commenter's comparison is faulty.

In making a comparison, the commenter found the highest one-hour model predictions under class A conditions and compared these with monitor measurements recorded during the same exact time periods. This comparison fails to identify the maximum monitored values recorded at the Gibson monitors. The comparison, therefore, is biased toward showing the model overpredicting. As recommended in EPA's Guidance on Air Quality Models, an appropriate study of the predictive accuracy of the model would compare the highest 3-hour levels calculated by the model with the highest 3-hour levels recorded by a monitor at the site. Commenter's study, therefore, is contrary to that recommendation and does not support a conclusion that the model is overpredicting.

There are also serious questions regarding the reliability of the Gibson monitor data. According to state officials, the Gibson monitor data has not been quality assured and should not be relied upon. In addition, during the period of time the data was collected, Gibson's operation may have been limited to keep concentrations below the national ambient air quality standards. According to the operators of the Gibson plant, the monitoring network is used as part of a supplementary control system. Therefore, comparisons of this monitor data with model predictions which are based on full load parameters would be inappropriate.

f. *Conesville data.*—In June of 1979, Columbus and Southern Ohio Electric Company (CSOE) set up four SO_2 monitors at distances between 1.0 to 1.4 km from its Conesville plant. On December 14, 1979, CSOE submitted data for the first three months of operation.

The agency reviewed the data and has submitted comments to CSOE on the placement of the monitors. Given the extremely limited amount of data collected under class A conditions (three three-hour periods) and the short period of data collection (three months), the agency determined that at this time the data is too limited to evaluate the predictive accuracy of the P-G class A dispersion coefficients. CSOE, however, did provide an extremely limited comparison of predicted concentrations for the periods of observed class A conditions. Those comparisons demonstrate that for the periods of measured maximum three hour concentrations, the maximum observed 3-hour concentrations (highest and second highest concentrations) were unpredicted using all of the methods proposed by CSOE including the agency's modeling methodology with the P-G class A curve.

g. *The remand procedures.*—Commenters also criticized the agency for not following the rulemaking procedures set forth in Section 307(d) of the Clean Air Act. However, the agency has determined that Section 307(d) is not applicable to the development of a response on the class A remand since that activity did not constitute "the promulgation or revision of an implementation plan" within the meaning of section 307(b)(1)(B).

On June 29, 1978, the Court remanded the class A issue to the agency "for further study". The Court found that the agency's use of the P-G dispersion coefficients under class A conditions was not adequately supported by the record. The Court remanded the issue with three options: (1) to supply the record supporting the agency's use of the P-G class A coefficients, (2) to modify the coefficients with a new supporting record, or (3) to adopt the class B proposal suggested by the utilities. The agency re-evaluated the use of the P-G class A dispersion coefficients and has determined that the P-G class A coefficients are appropriate for setting emission limitations. The agency's response to the remand, therefore, consists of the compilation of a supplemental record to support the originally promulgated emission limitations for the four power plants at issue. The agency's response to the remand has not involved either the development of new coefficients or the substitution of different coefficients for the class A coefficients, either of which would have required the promulgation of new emission limitations in the implementation plan and therefore would have been subject to the procedures of Section 307(d). Instead, the agency has reaffirmed its original implementation plan and developed a supplemental record in support of the decision.

Commenters have not been prejudiced by the procedures the agency used in responding to the Court's remand. The agency has followed a course similar to section 307(d) procedures. The agency provided a detailed notice of its proposed decision when it published its reconsideration of the use of the P-G dispersion coefficients for class A conditions and solicited comments. The agency also has made available all of the data and materials it evaluated in its reconsideration and all the public comments. Finally, the agency has considered all of the comments and evaluated all of the data submitted or referenced by commenters, including, where possible, updated data submitted by commenters after the close of the comment period. In short, commenters have had an adequate opportunity to comment on the agency's decision and to submit data for consideration by the agency.

C. Conclusion

The agency has reviewed the use of the P-G class A dispersion coefficients to set emission limitations for the Stuart, Cardinal, Muskingum River, and Conesville power plants in Ohio. As part of that review the agency has reconsidered the theoretical arguments previously submitted by the Ohio utilities and reviewed field data not considered by the agency during the rulemaking. The agency has also reviewed all comments submitted on the agency's February 7 notice and has evaluated new alternatives and further data, as suggested by the commenters.

Commenters have not provided any technical basis to support changing the agency's proposed findings. In fact, utility monitor data support the agency's determination that it should continue to use the P-G class A dispersion coefficients. Moreover, the data establish that all of the alternatives proposed by commenters are contrary to experimental and monitor data. In short, the proposed alternatives cannot be accepted by the agency and the latest experimental and utility monitor data support the continued use of the P-G class A dispersion coefficients.

Dated: June 16, 1980.

Barbara Blum,

Acting Administrator.

Table 1. Experimental Parameters of Dispersion Field Studies.

	P-G	Brook-haven	Julich	Karlsruhe (1976)	Karlsruhe (1979)	Ohio Power Plants
tracer	non-buoyant (n/b)	n/b	n/b	n/b	n/b	buoyant
release level	near ground level	≧100m	≧100m	≧100m	≧195m	240m
surface Roughness length	≦.03m	=1.0m	=1.0m	=1.0m	=1.0m	=1.0m

Table 2. Power Plants with SO_2 Monitors within 2 km of their Tall Stacks.

Power Plant	Location (County, State)	Monitor Number	Monitor Distance from Stacks (km)	Monitor Direction from Stacks (*)	Monitor Height above Stack Base (m)
John Seiver	Hawkins, TN	5	1.6	229	9
Muskingum River	Washington, OH	5	1.7	37	78

Table 3. Highest and second highest 3-hour SO_2 concentrations observed and calculated at the closest monitor site at the John Sevier and Muskingum River power plants.

	Monitor Observed			Model Calculated		
	Year	Highest	Second	Year	Highest	Second
John Sevier						
	1973	.17	.16	1964	.32	.32
	1974	.23	.22	1970	.26	.18
	1975	.45	.39	1971	.24	.21
	1976	.40	.39	1972	.29	.25
	1977	.43	.31	1973	.23	.16
	1978	.34	.30	1974	.21	.17
Muskingum River						
	1978	.39	.20	1964	.43	.29
	1979	.63	.41	1971	.33	.25
				1972	.40	.34
				1973	.40	.34
				1974	.36	.30
				1975	.55	.43
				1976	.41	.34

Table 4. Muskingum River Power Plant SO_2 monitors

Monitor Name (No.)	Distance from Stacks * (km)	Azimuth from Stacks * (°)	Height above Stack Base (m)
Center Bend (5)	1.7	37	74
Hackney (2)	4.6	41	74
Rich Valley (3)	8.5	36	105
Caldwell (4)	20.7	33	132
Beverly (1)	5.2	138	56
Mount Olivet (6)	6.1	240	108

* Stacks 1 and 2 are located 645m apart along a 240° azimuth. Distances and azimuths indicated are from the centroid of the two stacks.

Table 5. SO_2 concentrations and meteorological observations at Muskingum River monitors during highest 3-hour SO_2 measurements (wind speed measured on-site; cloud cover mixing height measured at Huntington, WV)

Dates of Highest Measurements at Monitor of Concern (Mo/Day/Yr)	Highest Measured 3-Hour SO_2 Concentration During Day (ppm)				Hours of Measurement at Monitor of Concern	Wind Speed (mph)	Opaque Cloud Cover (tenths)	Afternoon Mixing Height (m)
	Monitor 5	Monitor 2	Monitor 3	Monitor 4				
Monitor 5 (1.7 km)								
5/5/79	.63	.40	.28	.19	13-15	2-3	0	1300
5/22/79	.41	.22	.07	.01	14-16	3-4	6-10	2350
9/5/78	.39	.31	.08	.01	14-16	1-2	0	850
Monitor 2 (4.6 km)								
5/5/79	.63	.40	.28	.19	14-16	2-3	0	1300
9/6/78	.13	.32	.34	.51	12-14	3-4	0-3	1300
11/19/78	.18	.31	.24	.22	15-17	1-2	0-10	660
Monitor 3 (8.5 km)								
6/4/79	.17	.11	.40	.05	3-5	1-4	10	N/A
6/15/79	.14	.24	.40	.23	10-12	7-8	0	1600
9/6/78	.13	.32	.34	.51	12-14	3-4	0-3	1300
Monitor 4 (20.7 km)								
9/6/78	.13	.32	.34	.51	13-15	3-5	0.3	1300
6/15/79	.14	.24	.40	.23	11-13	5-8	0	1600
11/19/78	.18	.31	.24	.22	18-20	0-3	5-10	660

[Diagrams Omitted in Printing]

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 52]

[A-5-FRL 1061-3]

APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS; OHIO

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: This rule restarts compliance schedules and revises attainment dates in the federally promulgated Ohio state implementation plan for three power plants. Compliance with the emission limitations for the three power plants was stayed pending the Environmental Protection Agency's reconsideration of its original use of the Pasquill-Gifford (P-G) class A dispersion coefficients in setting emission limitations for these plants. The United States Court of Appeals for the Sixth Circuit remanded the class A record to the agency on June 29, 1978. *Cincinnati Gas and Electric Company* v. *EPA*, 578 F.2d 660 (6th Cir. 1978). On June 19, 1980, EPA published its reconsideration of the class A issue and affirmed its original use of the P-G class A coefficients in setting emission limitations for these power plants (45 FR 41501). Thus, on June 19, 1980, EPA affirmed the emission limitations for the power plants that were originally promulgated by EPA on August 27, 1976. 41 FR 36324, 40 CFR 52.1881, et seq. In order to bring the three power plants into compliance with their emission limitations, EPA is restarting the original compliance schedules. The new starting date for the compliance schedules is June 19, 1980. The attainment date for these plants is June 19, 1983. EPA is also publishing for comment in today's Federal Register a proposed alternative compliance schedule for the Conesville power plant based on the stated intention of Columbus and

Southern Ohio Electric Company to install a coal washing facility to achieve compliance. If CSOE chooses not to install a coal washing facility to achieve compliance, it must comply with the original compliance schedule.

EFFECTIVE DATE: June 19, 1980.

FOR FURTHER INFORMATION CONTACT: Debra Marcantonio, U.S. Environmental Protection Agency, Region V, Air Programs Branch, 230 South Dearborn Street, Chicago, Illinois 60604, (312) 886-6039.

SUPPLEMENTARY INFORMATION: On June 29, 1978, the U.S. Court of Appeals for the Sixth Circuit remanded to EPA for its further consideration the agency's use of the Pasquill-Gifford dispersion coefficients in setting emission limitations for isolated rural sources in Ohio. *Cincinnati Gas and Electric Company* v. *EPA*, 578 F.2d 660 (1978). The agency published its preliminary findings on its review of the original class A record on February 7, 1979. 44 FR 7798. The agency stated that its preliminary review of additional scientific data supported EPA's original decision to use the class A coefficients in setting emission limitations for isolated rural power plants in Ohio. Review of the agency's modeling determined that only four Ohio power plants had emission limitations which were determined by P-G class A conditions. These power plants are Stuart (Dayton Power and Light Company), Conesville (Columbus and Southern Ohio Electric Company), Cardinal and Muskingum River (Ohio Power Company).

The Court's remand effectively stayed compliance with the originally promulgated emission limitations for the four plants pending the agency's reconsideration of the original class A record. 44 FR 7798 (February 7, 1979). However, since the agency's preliminary findings supported the original use of class A, the agency solicited comment on whether these utilities would need more time than allowed under the current compliance schedule to bring their sources into compliance with their original emission limitations.[1] 44 FR 7798. The original attainment date for these four plants was June 17, 1980. 40 CFR 52.1875 (1979). EPA stated in the February 7, 1979 notice that, if necessary, it would amend the SIP to give the utilities more time to comply.[2]

On June 19, 1980, EPA published its evaluation of comments on the February 7, 1979 notice and its final determination on use of the P-G class A coefficients. 45 FR 41501. EPA found that the scientific evidence and utility monitor data supported the agency's original decision to use the P-G class A coefficients in setting emission limitations for the four Ohio power plants. Therefore, the agency reaffirmed the originally promulgated emission limitations for the four plants on June 19, 1980, and these sources are now required to come into compliance with those emission limitations.[3] 45 FR 41509 (June 19, 1980).

In response to EPA's February 7, 1979 notice, only Dayton Power and Light Company indicated that it would not need more time to comply. Dayton Power and Light stated that its Stuart power plant is in compliance with the originally promulgated emission limitation. There is, therefore, no need to restart the compliance schedule or revise the attainment date for the Stuart power plant. However, in order to bring the Conesville, Muskingum River and Cardinal plants into compliance, the agency is restarting the original compliance schedules for these plants. This means that these plants will have to comply with the same interim compliance milestones used for all other SO_2 sources in the state of Ohio. These plants will also have the same three year period for attainment as used for all other SO_2 sources in Ohio.

---

[1] The current emission limitations for these plants are as follows: Stuart—3.16 lbs. SO_2/MBTL; Conesville—5.66 lbs. SO_2/MBTU; Cardinal—4.76 lbs. SO_2/MBTU; and Musingum River—6.48 lbs. SO_2/MBTU. *See* 40 CFR § 52.1881. These are some of the highest emission limitations in the federally promulgated Ohio SO_2 plan.

[2] Restarting compliance schedules and revising attainment dates following a remand is proper under the Clean Air Act Section 110(a)(2)(A) 42 U.S.C. § 7410(a)(2)(A). The United States Court of Appeals for the Sixth Circuit affirmed exactly such an action following remand of particulate matter regulations in Ohio. *Northern Ohio Lung Association* v. *EPA*, 572 F.2d 1143 (1978).

[3] Ohio Power Company and Columbus and Southern Ohio Electric Company filed petitions for reconsideration of the agency's June 19, 1980 determination on class A. Both requested a stay of the decision pending the agency's reconsideration or, if the agency denies the reconsideration, pending judicial review. The agency will respond to the petitions and requests for stay in a separate Federal Register notice.

In addition to restarting the original compliance schedules, the agency is proposing to promulgate an alternative compliance schedule for the Conesville plant. On January 23, 1980, Columbus and Southern Ohio Electric Company (CSOE) submitted to EPA a proposed coal washing compliance program and schedule to meet its original emission limitation. EPA reviewed the CSOE schedule and determined that it is as expeditious as practicable and provides for compliance within three years of approval. In addition, the coal washing program allows CSOE to continue burning Ohio coal and still meet its emission limitation. EPA is publishing for comment in the proposed rules section of today's Federal Register the CSOE coal washing compliance schedule as an alternative to the original compliance schedule in 40 CFR 52-1882(b). If CSOE chooses to comply by installing a coal washing facility, it would have to meet the interim dates in the coal washing compliance schedule. If CSOE chooses not to install a coal washing facility, it will be subject to the interim dates of the original compliance schedule. EPA is proposing to make the coal washing schedule subject to the same starting date as the original schedule.

The agency has determined that the appropriate starting date for the original compliance schedules for these plants is June 19, 1980. Accordingly, the new attainment date for these plants is June 19, 1983. The Court's remand in effect required the agency to stay compliance for the "class A" power plants until the agency responded to the remand. The utilities, however, were on notice that the stay would be lifted once the agency's responded to the remand. The utilities were also on notice that the agency was considering reaffirming their original emission limitations. 44 FR 7798 (February 7, 1979). In fact, the agency specifically asked the utilities to comment on whether they would need more time to comply with their original emission limitations. Therefore, the utilities had fair warning that they could be required to comply with their original emission limitations once the agency responded to the remand. Further delay in moving these plants toward compliance with emission limitations that were promulgated in 1976 is unwarranted and would be contrary to the public interest.[4]

The agency has determined that it is unnecessary to provide for further comment on the original compliance schedules. Both the utilities and the public have already had the opportunity to comment on the compliance schedules as part of the agency's original promulgation of the SO_2 plan in 1976. Thirty-three petitions for review were filed following EPA's promulgation of the SO_2 plan in 1976. None of the petitioners challenged the compliance schedules. *Cleveland Electric Illuminating Company* v. *EPA*, 572 F.2d 1150 (6th Cir. 1978), *cert. denied* 439 U.S. 910 (1978); *Cincinnati Gas and Electric Company* v. *EPA*, 578 F.2d 660 (6th Cir. 1978), *cert. denied*

---

[4] The U.S. Court of Appeals for the Sixth Circuit recently cited the long delays and the " 'public interest' in achievement of national air quality standards" in Ohio. *Republic Steel Corporation* v. *Costle*, 621 F.2d 797 (6th Cir. 1980).

439 U.S. 1114 (1978). In addition, the public and the utilities have had an opportunity to comment on the need to revise the original compliance schedules for these four "class A" power plants. 44 FR 7798 (February 7, 1979). Only the affected utilities commented. In addition, further public comment on these compliance schedules and revised attainment dates would delay moving these sources toward compliance. For these reasons, further public comment is unnecessary and would be contrary to the public interest.

Under Executive Order 12044 (43 FR 12661), EPA is required to judge whether a regulation is "significant" and, therefore, subject to certain procedural requirements of the Order or whether it can follow other specialized development procedures. EPA labels these regulations "specialized." I have reviewed this rule and have determined that it is a specialized regulation not subject to the procedural requirements of Executive Order 12044.

Under Section 307(b)(1) of the Clean Air Act, judicial review of this final action and supporting record is available only by the filing of a petition for review in the United States Court of Appeals for the Sixth Circuit within 60 days of the date of this publication. Under Section 307(b)(1) of the Clean Air Act, the requirements which are the subject to today's notice may *not* be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements. This Notice of Final Rulemaking is issued under the authority of Section 110(a), 172 and 301 of the Clean Air Act as amended.

(42 U.S.C. 7410(a), 7502, 7601(a))

Dated: November 3, 1980.

Barbara Blum,

Acting Administrator.

Part 52 of Chapter 1, Title 40 of the Code of Federal Regulations is amended as follows:

SUBPART KK—OHIO

1. In 52.1875, the attainment date for sulfur dioxide in the table is revised for Ohio Power Company and Columbus and Southern Ohio Electric Company. This revision is reflected in footnote "f" to the table. The introduction paragraph of footnote f. is revised and a new footnote f.(3) is added, as follows

§ 52.1875 Attainment dates for national standards.

* * * *

f. August 27, 1979 except for the companies listed in (1) which are subject to an attainment date of June 17, 1980, the Ashland Oil Company which is subject to an attainment date of September 14, 1982, the companies in Summit County listed in (2) which are subject to an attainment date of January 4, 1983. PPG Industries, Inc. (boilers only) in Summit County, Ohio which is subject to an attainment date of August 25, 1983, and the utilities listed in (3) which are subject to an attainment date of June 19, 1983.

* * * *

(3) Ohio Power Company (Cardinal plant in Jefferson County and Muskingum River plant in Washington and Morgan Counties) and the Columbus and Southern Ohio Electric Company (Conesville plant in Coshocton County).

2. In § 52.1882, new section (h) is added as follows:

§ 52.1882 Compliance schedules.

* * * *

(h) The federal compliance schedule for Ohio Power Company's Cardinal plant in Jefferson County and

Muskingum River plant in Washington and Morgan Counties and Columbus and Southern Ohio Electric Company's Conesville plant in Coshocton County is set forth in § 52.1882(b) except that all references to June 17, 1977, are changed to June 19, 1980.

[FR Doc. 80-34907 Filed 11-8-80; 8:45 am]

[A-5-FRL 1661-4]

RECONSIDERATION OF THE USE OF PASQUILL-GIFFORD DISPERSION COEFFICIENTS FOR STABILITY CLASS A IN SETTING EMISSION LIMITATIONS FOR FOUR OHIO POWER PLANTS; PETITIONS FOR RECONSIDERATION

AGENCY: Environmental Protection Agency.

ACTION: Denial of petitions for reconsideration and requests for stay.

On June 19, 1980, the U.S. Environmental Protection Agency (EPA or agency) affirmed its original decision to use the Pasquill-Gifford dispersion coefficients for stability class A in setting emission limitations for four Ohio power plants. 45 FR 41501. The Ohio Power Company and Columbus and Southern Ohio Electric Company (CSOE) have petitioned the agency to reconsider its June 19, 1980 decision as it relates to the Cardinal, Muskingum River, and Conesville power plants.[1] Based on EPA's evaluation of the petitions and the supporting evidence, EPA finds that these petitions do not present new information which would warrant reconsideration of the agency's decision. EPA therefore denies the petitions and reaffirms the original emission limitations for these plants. *See* 40 CFR 52.1881 (21), (34) (viii), and

---

[1] Ohio Power filed its petition on July 10, 1980. CSOE filed a similar petition on August 11, 1980. Ohio Power and CSOE filed a joint supplement to their petition on August 18, 1980. These petitions have been evaluated together since they raise similar issues. On September 26 and October 3, 1980, petitioners filed further supplements to their petitions for reconsideration. The agency has reviewed these additional materials and finds that except for a comparison of monitor and model data from the Gibson power plant, petitioners have not submitted any new information. The agency will publish its evaluation of the Gibson comparison after review of the comparison has been completed.

63(i). Elsewhere in today's Federal Register, EPA is restarting the original compliance schedules for petitioners' class A power plants. These schedules begin to run as of June 19, 1980, and allow petitioners up to three years to comply. The new attainment date specified for these plants is June 19, 1983.

Petitioners also requested that the agency stay its June 19, 1980 decision pending reconsideration, or if reconsideration is denied, pending judicial review.[2] Petitioners, however, fail to present sufficient grounds for granting a stay of compliance with their emission limitations. Petitioners do not show that a stay of compliance would be in the public interest, that they would be irreparably harmed during the time necessary for judicial review, or that they are likely to prevail on the merits. EPA therefore denies petitioners' requests for a stay of compliance pending judicial review.

Background

The agency promulgated emission limitations for the Cardinal, Muskingum River and Conesville power plants on August 27, 1976, as part of the federally-promulgated Ohio sulfur dioxide plan. 41 FR 36324 (August 27, 1976).[3] The emission limitations for these three sources and Dayton Power and Light Company's Stuart power plant,[4] were determined by the P-G class A stability.

---

[2] Both Ohio Power and CSOE have filed petitions to review the agency's reconsideration in the U.S. Courts of Appeals for the Sixth and District of Columbia Circuits.

[3] The emission limitations for these sources are as follows: Cardinal—4.76 lbs. SO_2/MBTU; Muskingum River—6.48 lbs. SO_2/MBTU; and Conesville—6.66 lbs. SO_2/MBTU. See 40 CFR 52.1881 (21), (34) (viii), and (63) (i). These are some of the highest (least stringent) SO_2 emission limitations in the State of Ohio.

[4] Dayton Power and Light Company's Stuart power plant is currently in compliance with its emission limitations of 3.18 lb. SO_2/MBTU. 40 CFR 52.1881(11) (i).

45 FR 41502 (col. 1) (June 19, 1980). This means that the agency's dispersion modeling calculated that the highest pollution levels caused by these sources occurred during meteorological conditions that the model classified as class A stability. Based on the model calculations, the agency set emission limitations for these sources to assure that pollution levels would not exceed the national ambient air quality standards.

Following promulgation of the federal SO_2 plan, thirty-three companies including Ohio Power and CSOE petitioned for judicial review of the plan. The United States Court of Appeals for the Sixth Circuit issued two major decisions in these cases affirming the agency's use of dispersion modeling in setting emission limitations in urban and rural areas. *Cleveland Electric Illuminating Company* v. *EPA*, 572 F.2d 1150 (6th Cir. 1978), *cert. denied,* 436 U.S. 911 (1978) and *Cincinnati Gas and Electric Company* v. *EPA*, 578 F.2d 660 (6th Cir. 1978), *cert. denied,* 439 U.S. 1114 (1978). However, the Court found that the administrative record supporting the agency's decision to use the Pasquill-Gifford (P-G) dispersion coefficients for stability class A in setting emission limitations for isolated rural power plants was inadequate and remanded the class A record to the agency for its reconsideration. *Cincinnati Gas and Electric Company* v. *EPA*, 578 F.2d 660 (6th Cir. 1978).

In response to the Court's remand, the agency reviewed available scientific data and reconsidered its use of the P-G class A coefficients. EPA also evaluated the alternative suggested by the utilities. On February 7, 1979, EPA published and solicited comment on its preliminary finding that review of the data supported its original decision to use the P-G class A coefficients and demonstrated that the utility alternative would underpredict ground level concentrations. 44 FR 7798. Both Ohio Power and CSOE submitted extensive comments to the agency and also requested that the agency review monitoring data collected at various power plants including the Muskingum River and Conesville power plants. See 45 Fed. Reg. 41503-41504, 41509 (col. 2) (June 2, 1980).

On June 19, 1980, EPA published its response to comments and final determination. 45 FR 41501. The agency determined that all of the data including the relevant utility monitor data supported its original decision to use the P-G class A coefficients in setting the emission limitations for the four Ohio power plants. Moreover the data established that the agency could not accept any of the new alternatives proposed by the utilities during the comment period. Thus EPA reaffirmed the original emission limitations for these sources on June 19, 1980. Elsewhere in today's Federal Register, EPA is restarting the original compliance schedules for the Muskingum River, Cardinal and Conesville plants and revising the attainment dates for these sources.

Subsequent to the June 19, 1980 notice, Ohio Power Company and CSOE filed petitions in the U.S. Courts of Appeals for the Sixth and District of Columbia Circuits seeking judicial review of the agency's determination to support its original use of the P-G class A coefficients in setting the original emission limitations for the Cardinal, Muskingum River and Conesville plants. In addition, Ohio Power and CSOE filed these petitions for reconsideration and requests for stay.

Discussion

Ohio Power and CSOE petitioned for reconsideration of the agency's decision to support the original use of the P-G class A coefficients in setting emission limitations for their plants pursuant to Section 307(d)(7)(B) of the Clean Air Act, 42 U.S.C. 7607(D)(7)(B), and Section 553(e) of the Administrative Procedure Act (APA), 5 U.S.C. § 553(e). The agency considers these petitions for reconsideration as petitions under the APA to revise the original emission limitations for petitioners' "class A" power plants. The agency has already determined that the agency's compilation of a supplemental record in response to the Court's remand is not subject to Section 307(d) of the Clean Air Act. 45 FR 41509 (June 19, 1980). Therefore, Section 307(d)(7)(B) does not apply to the agency's action.[5] Nevertheless, the agency recognizes the right of petitioners to seek revision of the original emission limitations for their "class A" plants under Section 553(e) of the APA. The Agency therefore considers these petitions as petitions to revise a rule under the APA. The standard of review for such petitions is whether the petitions present new information that warrants agency reconsideration of the rule. See generally, *Oljato Chapter of the Navajo Tribe* v. *Train*, 515 F.2d 654 (D.C. Cir. 1975). Under this standard, petitioners have presented no basis for changing their emission limitations.

Petitioners allege that there is "significant evidence arising after the comment period" that requires the agency to reconsider its June 19, 1980 determination to support the original use of the P-G class A coefficients in setting the emission limitations for the four Ohio power plants. However, petitioners have not presented any new information that would warrant revision of the original emission limitations for their power plants.

Petitioners cite as new information two recently published reports and the most recent monitoring data collected near the Conesville plant. Neither of the reports presents new information relevant to the predictive accuracy of the agency's modeling using the P-G class A coefficients. The Miller report consists of information that the agency has already evaluated. 45 FR 41502 (col. 2) (June 19, 1980). The Weil report prepresents no data relevant to the predictive accuracy of the agency's model which uses the P-C class A coefficients. Instead, the Weil report addresses the predictive accuracy of a completely different model. Finally, petitioner's analysis of additional months of Conesville monitoring data confirms the predictive accuracy of the agency's modeling with the P-G class A coefficients. The most recent Conesville data therefore further support the agency's original decision to use the P-G class A coefficients in setting the emission limitation for the Conesville plant.

---

[5] Even if Section 307(d)(7)(B) did apply, petitioners would not qualify for a reconsideration. Based on the reasons set forth below, petitioners do not present a new objection of central relevance to the outcome of the rule within the terms of Section 307(d)(7)(B). Under the criteria of Section 307(d)(7)(B), therefore, the petitions would be denied.

Petitioners also raise several objections to the agency's June 19, 1980 evaluation of petitioners' previous comments, proposed alternatives and data.[6] None of petitioners' objections are based on any new data. Nevertheless, the agency has evaluated the objections and finds that all of petitioners' objections to the agency's use of the P-G class A coefficients are without merit. Petitioners, therefore, have not presented a basis for revising their emission limitations.

A. *The Miller report consists of information already considered by the agency*

Petitioners offer as new information a recently published report entitled "Recommendations Concerning Models and Parameters Best Suited to Breeder Reactor Environmental Radiological Assessment" by C. W. Miller and others for the Oak Ridge National Laboratories (May 1980). However, the Miller report is not based on any new data with respect to the class A issue. Instead, it merely recites the recommendations of the American

---

[6] On June 25, 1980, the agency denied Ohio Power Company's request for an additional comment period on the agency's June 19, 1980 evaluation of comments and final determination. EPA found that the utilities had had an opportunity to comment on the agency's findings and that a further comment period was unnecessary.

Meteorological Society (AMS) Workshop on Stability Classification Schemes and Sigma Curves, Hanna et al. (1977), and the recommendations of Geiss et al. (1978) (Julich curves). The agency previously reviewed both of these reports and recommendations and concluded that the recommended alternatives would underpredict ground level concentrations for sources with tall stacks. The AMS and Geiss recommendations, therefore, can not be used to set emission limitations adequate to insure attainment and maintenance of ambient standards for the four Ohio power plants. *See* 45 FR 41502 (col. 2), 41507 (col. 2-3) (June 19, 1980). In short, the Miller report does not provide any new information which would warrant revision of petitioners' emission limitations.

B. *The Weil report is not relevant to the predictive accuracy of the agency's modeling with P-G class A coefficients*

Petitioners submitted another recently published article entitled "Performance of Simple Models For Stack Plume Dispersion During Convective Conditions" (April 8, 1980) by Jeffrey C. Weil. The article reports Weil's findings regarding the predictive accuracy of his own model. Weil neither analyzes the agency's model nor draws any conclusions regarding the accuracy of the agency's model. Moreover, Weil does not analyze the relative accuracy of his model compared to the agency's model. The Weil report therefore is not relevant to the predictive accuracy of the agency's model using the P-G class A coefficients and provides no basis for revising petitioners' emission limitations.

In his report, Weil compares pollution concentrations calculated by his own model using the Brookhaven class B_2, P-G class A and P-G class B curves with concentrations measured by monitors. Weil concludes that pollution concentrations calculated by *his model* with the Brookhaven class B_2 curves compared more favorably with monitored data than concentrations calculated by *his model* with the P-G class A or P-G class B curves.[7] However, Weil's model is very different from the agency's model. Weil uses modeling assumptions for plum height and mean transport wind that are significantly different than the agency's model treatment of these factors. Therefore, Weil's analysis is not relevant to the predictive accuracy of the agency's model using the PO-G class A coefficients.

Moreover, Weil does not evaluate the relative accuracy of his model using the Brookhaven class B_2 curves compared to the agency's model using the P-G class curves.[8] Weil's data, therefore, do not present a basis for revising the agency's decision to use the P-G class A coefficients in setting emission limitations for petitioners' plants.

C. The most recent Conesville data further supports the agency's use of the P-G class A coefficients

Petitioners submitted additional monitoring data from four Conesville monitors.[9] In addition, petitioners compared the maximum 3-hour concentrations measured by the monitors to the maximum 3-hour concentrations calculated by the agency's MPTER model using the P-G class A curves.[10] Petitioners' comparison establishes that the agency's model using the P-G class A coefficients is accurately predicting the maximum ground level concentrations measured at the four Conesville monitors. Petitioners' new data therefore further support the agency's original decision to use the P-G class A coefficients in setting the emission limitation for the Conesville plant. The Conesville data does not provide a basis for revising the original emission limitation.

---

[7] The agency evaluated use of the Brookhaven class B_2 curves as an alternative to using the P-G class A coefficients in EPA's model and found that use of the Brookhaven curves would underestimate ground level concentrations. 45 FR 41507 (col. 2-3). The agency concluded that it could not use the Brookhaven curves to set emission limitations for the four power plants that would protect ambient standards.

[8] Agency review of the Weil report and a recent technical note by a Weil associate, Roger Brower, entitled "Comparison between Prediction of Two Gaussian Models (CRSTER and modified CRSTER) and Measured SO_2 Concentrations Near Tall Stacks Under Convative Conditions" (June 1980) indicates that the Weil model will calculate even higher concentration than the agency's model using the P-G class A curves.

[9] CSOE set up four SO_2 monitors in June of 1979 at locations 1.0 to 1.4 km from the Conesville plant. However, CSOE may not have placed its four "class A" monitors in locations where the maximum three-hour concentrations would occur under class A-type conditions. All of CSOE's "class A" monitors are located in a northeasterly di-

The agency considered the early months of data from the Conesville monitors in its June 19, 1980 notice (45 Fed. Reg. at 41509 (col. 2)). The agency determined that three months of data was insufficient to draw sound conclusions regarding the predictive accuracy of the P-G class A curves at the Conesville plant. The agency, however, noted that the limited comparison submitted by CSOE using three months of data indicated that the P-G class A coefficients were *underpredicting* the maximum observed 3-hour concentrations. 45 FR 41509 (June 19, 1980).

---

rection from the Conesville plant. Review of the agency's modeling for Conesville established that the Conesville emission limitation was based on a second high 3-hour concentration located 230′ southwest of the plant. Review of climatological data in the Conesville area also indicates that the prevailing winds are out of the northeast-north/northeast direction during class A type meteorological conditions. Therefore, more frequent and higher maximum 3-hour ground level concentrations are probably occurring in a different area than where CSOE has placed its monitors.

[10] CSOE's comparison set forth in Table 3a of the August 18, 1980 Supplement is similar to the monitor/model comparison the agency included in the July 19, 1980 notice using relevant utility monitoring data and MPTER (NTIS version) modeling calculations. See 46 FR 41503, 41512. (Table 3.). The agency has updated the CSOE table with model calculations using the OAQPS version of MPTER. See p. 21 and Table 2.

With the additional data the petitioners submitted in their petitions for reconsideration, the petitioners now have twelve months of data from three of the four monitors and ten and a half months at the fourth monitor. Petitioners compared the highest and second highest 3-hour pollution concentrations observed at each of the four Conesville monitors to the highest and second highest model calculated 3-hour concentrations at the monitor locations for each of six years of meterological data. The ratio of the model predicted to monitored maximum second high 3-hour concentrations for all four monitors on the average is 1.05 (1.0 would mean perfect agreement). The ratio for the highest 3-hour concentrations for all four monitors on the average is 1.32. The ratios demonstrate that there is very good agreement between the monitor readings and the model calculations. The petitioners' comparison establishes that the agency's model using the P-G class A curves accurately predicts the maximum 3-hour sulfur dioxide concentrations measured at the Conesville monitors. The Conesville data therefore further support the agency's original decision to use the P-G class A dispersion coefficients in setting an emission limitation for Conesville.

D. Petitioner's other objections are without merit.

1. Big Bend Study.

Petitioners imply that it was inconsistent for the agency on the one hand to determine that field study data collected at the shoreline site of the Big Bend power plant were not relevant to the predictive accuracy of the P-G class A curves (45 FR at 41509) and on the other hand to use P-G class A coefficients to set emission limitations for two Cleveland Electric Illuminating power plants located on Lake Erie (45 FR 42279, June 24, 1980). Petitioners, however, misconstrue the agency's findings on the Big Bend data.

The agency determined that it could not use the Big Bend data in evaluating the predictive accuracy of the P-G class A coefficients because the data was collected during a period of time when very unstable (class A type) meteorological conditions were suppressed by the influence of the Gulf. As EPA stated in its June 19 notice, "a large body of water *often* has a stabilizing influence on atmospheric conditions near the shoreline." 45 Fed. Reg. 41508 (col. 3) (emphasis added). In other words, the agency found that very unstable (class A type) conditions did not occur during the period of the Big Bend field study, *not* that class A type conditions never occur near large bodies of water.

Since class A type conditions do occur near large bodies of water, the agency must evaluate class A conditions and their effect on the dispersion of pollutants from sources near such areas. Only by evaluating class A (and all other) meteorological conditions can the agency be sure of setting emission limitations that will protect air quality standards. It therefore was necessary for the agency to evaluate class A conditions for the two Cleveland Electric Illuminating power plants and appropriate for the agency to set emission limitations based on that evaluation.

2. Petitioner CSOE's Proposed Alternatives

Petitioners contend that the agency did not consider CSOE's proposed alternatives to the P-G class A coefficients. However, EPA has already considered and rejected CSOE's proposals. Petitioners present no basis for revising EPA's initial evaluation of petitioner's proposals.

Specifically, petitioners contend that EPA did not consider two alternatives: 1) the use of correction factors (time scaling factors)[11] and 2) the use of the shorter averaging times method. Both alternatives would essentially result in larger sigma-y values than in the P-G class A coefficients. Larger sigma-y values mean greater horizontal dispersion of the pollutant and lower maximum ground level concentrations.

---

[11] CSOE did not propose this alternative during the comment period, but submitted it in a January 18, 1980 report. Nevertheless, the agency considered it in its June 19, 1980 notice. See 45 FR 41507 (Col. 1).

EPA has already considered CSOE's alternatives and the general contention that the horizontal dispersion (sigma-y) component in the P-G class A curves is too small. See 45 FR 41506-41508 (June 19, 1980). EPA review of CSOE's alternatives as well as other alternatives relying on larger sigma-y values established that use of the alternative would underpredict ground level concentrations.[12] For that reason, the agency determined that it could not rely on the suggested alternatives to set emission limitations to protect the ambient air quality standards. 45 FR 41507-41508. Petitioners present no data to support revising that finding.

3. EPA's use of the Karlsruhe Data

Petitioners criticize EPA's reliance on the dispersion coefficients derived by the 195 meter Karlsruhe experiments in preference to the coefficients derived from the 60, 100, and 160 meter experiments. Petitioners contend that the Karlsruhe experimenters recommend using the coefficients obtained by combining the results of experiments at 160 and 195 meters. Petitioners also cite a recent article entitled "Dispersion Parameters for Emission Heights up to 195 meters Determined Experimentally at the Karlsruhe National Research Center", Nester and Thomas (1979), which summarizes the results of the 60, 100, 160, and 195 meter experiments. Petitioners contend that the combined experiment results in this report support larger sigma-y curves than in the P-G class A coefficients.

---

[12] CSOE in fact submitted evidence that use of its shorter averaging times alternative would significantly underpredict ground level concentrations calculated by the agency's modeling using the P-G class A coefficients Class A Report at U.B.4.b. p. 39. Since the monitor/model comparison demonstrates that the agency's model accurately predicts monitored ground level concentrations. CSOE's alternative would necessarily underpredict monitored ground level concentrations.

Petitioners misconstrue the Karlsruhe experimenters' recommendation. The Karlsruhe experimenters recommended use of the combined experiment coefficients for evaluating the low level emissions from the Karlsruhe facility.[13] The Karlsruhe experimenters did not comment on the appropriate coefficients for evaluating emissions from tall stack power plants. The 195 meter experiments are in fact the most appropriate experiments for evaluating dispersion from power plants.

As the agency explained in the June 19, 1980 notice, the most appropriate experiments for evaluating dispersion from the four Ohio power plants are the experiments that come closest to approximating power plant conditions. 45 FR 41505. Emissions from these power plants are released from tall stacks and attain heights of 200 meters or higher. Experiments that release tracers from 195 meters rather than 60, 100 or 160 meters best approximate the release of pollutants from these power plants. The 195 meter experiments, therefore. are the most appropriate experiments for evaluating dispersion coefficients for the power plants. 45 FR 41505 (June 19, 1980).

---

[13] The dispersion coefficients derived from combining the 196 meter and 180 meter experimental data are more appropriate for use in evaluating the lower level releases that would occur at the Karlsruhe facility. Emissions at the Karlsruhe nuclear research facility are released at levels of less than or equal to 180 meters and are non-buoyant. The combination of the 180 and 195 meter experiments more closely approximates the Karlsruhe releases. Thus, use of the combined experiment coefficients is appropriate for evaluating the lower level emissions from the Karlsruhe facility, but not for evaluating the buoyant high level releases.

Petitioners contend that the recent article summarizing the results of the 60, 100, 160 and 195 meter dispersion experiments at Karlsruhe over the last ten years supports larger sigma-y curves than the P-G class A sigma-y values. The authors of the article, however, base their conclusions on the averaged results of these experiments. As discussed above, the 195 meter experiments are the most appropriate for evaluating dispersion coefficients for the four power plants, rather than averaged results from experiments at lower heights. Therefore, the article does not support the use of larger sigma-y values for the four power plants. Moreover, the agency has already considered and rejected the utility arguments for larger sigma-y values. 45 FR 41506-41507. (June 19, 1980). Petitioners present no basis for finding that the agency's reliance on the 195 meter experimental data is inappropriate.

4. EPA did not use monitoring data from power plants using supplementary control systems

Petitioners criticize the agency for not using monitoring data from two TVA power plants and Public Service Indiana's Gibson plant because these plants use supplementary control systems.[14] As EPA stated in the June 19, 1980 notice, appropriate comparison of model predictions with monitor observations for plants using a supplementary control system requires actual operating data that are not available to the agency. 45 FR 41506 (col. 3). The agency, therefore, could not use the monitoring data from these plants.

5. EPA's monitor/model comparison

Petitioners contend that the agency's comparison of monitor and model data set forth in Table 3 of the June 19, 1980 notice does not support EPA's conclusions. Supplement to petitions at 9-10. However, petitioners' argument on this point implies that petitioners misunderstand the agency's intent in drawing the comparison.[15] The point of the comparison is to determine whether the model using the P-G class A coefficients accurately predicts actual maximum ground level concentrations.[16] The agency compared the maximum 3-hour concentrations observed at power plant monitors to the model calculations of the maximum 3-hour concentrations at the same locations. The comparison established that the model calculations compared well with actual measurements. The agency, therefore, concluded that its model using the P-G class A coefficients accurately predicts maximum ground level concentrations for power plants with tall stacks. 45 FR 41504 (June 19, 1980). Petitioners present no basis for revising that conclusion. Instead, petitioners, raise several false issues.

---

[14] Petitioners erroneously contend that there is nothing in the record to support the fact that these plants use supplementary control systems. See Class A record at III.C.10.a and III.D.101.

First, petitioners criticize the modeling data the agency used in the comparison because the data was not "exclusively class A." Supplement to the petitions at 10. Each of the maximum 3-hour concentrations calculated by the agency's model consists of one or two hours of class A stability. See Supplement to petitions, Exhibit 4. However, petitioners assume that model calculated maximum 3-hour concentrations must consist of three consecutive hours of class A stability. Petitioners' assumption is wrong. Therefore, their criticism of the data is without merit.

---

[15] For example, petitioners argue that the agency's comparison is faulty because it does not evaluate the accuracy of the model in predicting when class A weather conditions occur. Supplement to petitions at 9-10. However, whether or not the model can predict when class A conditions occur is not at issue. The issue is whether the model using the P-G class A curves accurately predicts maximum ground level concentrations.

[16] The agency made similar monitor/model analyses in originating deciding to use dispersion modeling to set emission limitations in Ohio. The U.S. Court of Appeals for the Sixth Circuit noted the results of such comparisons in affirming the agency's use of dispersion modeling. *See Cleveland Electric Illuminating Co.* v. *EPA*, 572 F.2d 1158, 1163-1164 (6th Cir. 1978).

The model calculates a maximum 3-hour concentration by averaging three one-hour concentrations. For each one-hour concentration the model evaluates the meteorological data and determines the stability classifications. Thus, a 3-hour concentration has three stability classifications. Review of the agency's modeling demonstrates that maximum 3-hour concentrations usually do not consist of three consecutive hours of class A stability but consists of one or two hours of class A and the remainder of class B, C, or D stability. In fact, each of the second high 3-hour concentrations that were used to set emission limitations for the four "class A" power plants is based on only one or two hours of class A stability.[17] For example, the second high 3-hour concentration that was used to set the emission limitation for the Cardinal power plant was based on one hour of class A stability, one hour of class B stability and one hour of class C stability.

Second, petitioners criticize the agency for calculating maximum 3-hour concentrations only at the monitor locations. Petitioners contend that the agency should have calculated concentrations at several locations and compared the model's maximum concentration (considering all locations) to the monitor concentration. However, identity of monitor locations and model receptor sites is necessary for an accurate comparison. The agency specifically calculated concentrations at the monitor locations in order to compare data for the same locations. *See Cleveland Electric Illuminating Company* v. *EPA*, 572 F.2d 1150, 1163 (6th Cir. 1978) (where the Court discusses the need for identity of monitor locations and receptor sites). Petitioners' suggestions would not result in an accurate comparison and is without merit.

---

[17] Petitioners contend that the Muskingum River emission limitation was based on three class A hours Supplement to petitions at 10. However, review of the modeling demonstrates that it was based on only two class A hours. The model did not average in the third class A hour as contributing to the concentration since the wind direction changed, carrying the pollution off in a different direction. Petitioners also contend that model calculations of three consecutive hours of class A stability with a persistent wind direction are unrealistic. As discussed above, the model does not usually calculate maximum 3-hour concentrations with three consecutive hours of class A and a persistent wind direction, but such conditions do occur. Wind data submitted during the comment period by Cincinnati Gas and Electric Company for the East Bend power plant demonstrate that such conditions actually occur. Class A record at II.B.8.b.

Finally, petitioners imply that the agency's comparison is faulty because it is not a "validation study." Model validation usually involves extensive on-site data collection and modeling analyses to evaluate the performance of an entire model. *See Cleveland Electric Illuminating Company* v. *EPA*, 572 F.2d 1153 (8th Cir. 1978) (where the Court discusses the rigors of model validation). Using available monitor data to compare monitor and model concentrations is also a valid although less rigorous procedure for checking the accuracy of model predictions. Petitioners' implied critique of the comparison study is therefore without merit.

6. The agency's modeling methodology

Petitioners raise as an issue the fact that EPA did not use the CRSTER model in making the monitor/model comparison even though EPA had used the CRSTER model in setting the emission limitations for the four power plants. EPA did not use the CRSTER model for the comparison because that model does not have the capability of calculating concentrations at specifically designated locations such as the monitor locations. Instead, the agency used the MPTER model because it has the capability of calculating concentrations at specifically designated locations.[18] This allowed the agency to calculate concentrations at the monitor locations and make a more accurate comparison between model calculations and the monitor data.

EPA developed the MPTER Model from the CRSTER model and in most respects the MPTER is equivalent to the CRSTER model.[19] Besides the capability of calculating concentrations at specified locations, the MPTER Model can also take into account actual stack separation and the actual height of the wind instrument. These features increase the predictive accuracy of the MPTER Model analyses.

At the time the agency ran the MPTER model for the June 19, 1980 comparison, the agency considered that, except for the above described improvements over the CRSTER model, the MPTER Model was identical to CRSTER. The agency, however, has recently determined that two adjustments to the MPTER Model are require to make it completely consistent with CRSTER. These adjustments to the computer coding were outlined in a memorandum issued July 7, 1980, by EPA's Office of Air Quality Planning and Standards to EPA's regional offices.[20] The adjustments make the MPTER treatment of plume cut-off and receptor elevation consistent with CRSTER.

---

[18] These model runs are in the class A record at III.B.

[19] The agency explained the difference between the MPTER and the CRSTER models in footnote number 7 of the June 19, 1980 notice. 45 FR 41500. The Federal Register inadvertently omitted this footnote in printing. The footnote in the original text reads as follows: "MPTER is a model EPA developed from the EPA CRSTER model. In most respects, the MPTER and CRSTER models are identical and both can be run with the P-G dispersion coefficients. However, unlike CRSTER, MPTER can take into account stack separation and can also locate receptors using Cartesian coordinates. This feature allowed the agency to set a model receptor exactly at the location of the monitor and therefore make a more accurate comparison between model predictions and monitoring data."

[20] This memorandum is in the record supporting the agency's response to the petitions for reconsideration.

In order to evaluate the effect of these adjustments on the agency's June 19, 1980 modeling, which used the MPTER without these adjustments, the agency remodeled the John Sevier and Muskingum River power plants.[21] Table 1 sets forth a comparison of monitor data with the adjusted MPTER model (hereinafter "MPTER-OAQPS version") calculations for the John Sevier and Muskingum River plants and the original MPTER (hereinafter "MPTER-NTIS version") calculations which were set forth in Table 3 in the June 19, 1980 notice.[22] 45 FR 41512.

Comparison of the pollution concentrations calculated by the two versions of the MPTER demonstrates that the differences in the maximum and second maximum pollution concentrations are insignificant in almost all cases. Moreover, both MPTER versions calculate maximum concentrations that compare well with observed maximum concentrations. The comparison also shows that the monitors observed maximum concentrations of sulfur dioxide as high or higher than the maximum concentrations calculated by the model (OAQPS version) using the P-G class A dispersion coefficients. Therefore, the comparison using the OAQPS version of the MPTER model confirms the conclusion that the agency's modeling using the P-G class A coefficients accurately predicts measured maximum ground level concentrations.

---

[21] The agency also changed the SO_2 half-life previously used in its MPTER modeling to be consistent with that used in CRSTER modeling.

[22] Petitioners point out in their supplemental petitions at 8-9 that the meteorological data for 1984 used to set the original emission limitations is different than the data used in the MPTER modeling. The agency has previously pointed out that the national weather service corrected a mistake in the original 1984 meteorological data, after the agency's original modeling in 1978. The agency now uses the corrected data. The agency has found that the change has an insignificant effect on concentrations. See 45 FR 66030. (December 5, 1979). Petitioners also allege that the mixing height data is in error, however, petitioners do not support this allegation and the agency has no evidence of any error in the mixing height data it used in its MPTER modeling.

Conclusion

Petitioners do not submit new data or raise objections that warrant revision of their original emission limitations. In fact, the most recent monitoring data from monitors, near the Conesville plant further support the agency's original decision to use the P-G class A coefficients in setting the emission limitation for the Conesville plant. EPA therefore denies the petitions for reconsideration.

Petitioners also fail to establish sufficient grounds to warrant a stay pending judicial review. The grounds for granting such a stay are set forth in *Virginia Petroleum Jobbers Association* v. *Federal Power Commission,* 259 F.2d 921, 925 (D.C. Cir. 1958). Those grounds are that a stay would be in the public interest, is necessitated by the fact that petitioners would otherwise suffer irreparable harm and is justified by the likelihood of success on the merits.

Petitioners do not contend that a stay would be in the public interest or that they will suffer irreparable harm without a stay. On the contrary, the public interest requires that petitioners bring their power plants into compliance with their emission limitations. Moreover, petitioners will not suffer irreparable harm during the time necessary to complete judicial review. Under the compliance schedules for petitioners' class A plants, final compliance is not required for three years if compliance is achieved through installation of desulfurization equipment or for two and a half years if compliance is achieved through burning lower sulfur or washed coal.[23]

Petitioners also have not established any likelihood of prevailing on the merits. Petitioners have had a full and fair opportunity to comment on the agency's findings. The agency has evaluated petitioners' comments and all available data on the class A issue. The agency has found that its findings are fully justified. In addition, EPA has utilized data comparable to the data relied upon by the Court in affirming the agency's use of RAM modeling. *Cleveland Electric Illuminating Company* v. *EPA*, 572 F.2d 1150, 1163-164 (6th Cir. 1978). That data is a comparison between monitor observations and model calculations at the monitor locations. The comparison establishes that the agency's model using the P-G class A coefficients is accurately predicting ground level concentrations. In summary, petitioners do not satisfy any of the grounds for granting a stay. Therefore, EPA denies petitioners' requests for a stay pending judicial review of the agency's June 19, 1980 action.

for this action is the United States Court of Appeals for the Sixth Circuit. Under Section 307(b)(1) of the Clean Air Act, the requirements which are the subject of today's notice may *not* be challenged later in civil or criminal proceedings brought by EPA to enforce these requirements.

Dated: November 3, 1980.

BARBARA BLUM,

Acting Administrator.

---

[23] Elsewhere in today's Federal Register, EPA is restarting the original compliance schedules for the petitioners' Class A power plants. The schedules will begin to run as of June 19, 1980.

Table 1.—*Highest and second highest 3-hour SO_2 concentrations observed and calculated at the four "class A" monitor sites at the Conesville powerplant.*

Monitor observed			Model calculated (MPTER-NTIS version)			Model calculated (MPTER-OAQPS version)	
Year	Highest	Second	Year	Highest	Second	Highest	Second
John Sevier							
1973	.17	.16	1964	.32	.32	.32	.31
1974	.23	.22	1970	.26	.18	.26	.17
1975	.45	.39	1971	.24	.21	.25	.21
1976	.40	.39	1972	.29	.25	.31	.26
1977	.43	.31	1973	.23	.16	.23	.16
1978	.34	.30	1974	.21	.17	.23	.17
1979	.24	.20					
Muskingum River							
1978	.39	.20	1964	.40	.29	.30	.44
1979	.63	[1].43	1971	.23	.25	.34	.25
1980	[1].49	[1].44	1972	.40	.34	.25	.40
			1973	.40	.34	.42	.35
			1974	.36	.30	.37	.31
			1975	.55	.43	.56	.53
			1977	.41	.34	.42	.36

---

[1] This reflects the most recent data submitted by Ohio Edison on August 18, 1980. The 1980 figures are only for January through April 1980.

Table 2.—*Highest and second highest 3-hour SO_2 concentrations observed and calculated at the four "class A" monitor sites at the Conesville powerplant.*

Monitor observed			Model calculated (MPTER-NTIS version)			Model Calculated (MPTER-OAQPS version)	
Year	Highest	Second	Year	Highest	Second	Highest	Second
Levee							
June 1, 1979 and May 31, 1980	.38	.38	1964	.45	.31	.47	.32
			1973	.52	.42	.54	.44
			1974	.18	.14	.18	.15
			1975	.55	.36	.57	.45
			1976	.46	.27	.48	.26
			1977	.74	.64	.78	.68
Ash Pond No. 1							
June 1, 1979 and April 16, 1979	.31	.26	1964	.37	.31	.38	.33
			1973	.44	.20	.45	.20
			1974	.52	.34	.53	.35
			1975	.45	.30	.48	.31
			1976	.30	.29	.31	.30
			1977	.71	.50	.76	.52
Batch							
June 1, 1979 and May 31, 1980	.38	.34	1964	.49	.45	.51	.46
			1973	.32	.09	.32	.09
			1974	.39	.22	.40	.22
			1975	.54	.36	.56	.37
			1976	.37	.34	.38	.35
			1977	.58	.42	.59	.43
Rever							
June 1, 1979 and May 31, 1980	.37	.34	1964	.38	.37	.39	.38
			1973	.30	.28	.31	.29
			1974	.24	.16	.25	.17
			1975	.45	.42	.46	.43
			1976	.11	.07	.12	.09
			1977	.60	.40	.71	.40

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

Nos. 76-2090, 77-1367, 76-2232, 77-1361
76-2241, 77-1357, 76-2278

CINCINNATI GAS & ELECTRIC CO.,
COLUMBUS & SOUTHERN OHIO ELECTRIC CO.,
DAYTON POWER & LIGHT CO.,
OHIO EDISON CO., OHIO POWER CO.,
SHELL OIL CO., AUSTIN POWER CO.,
E. I. DUPONT DENEMOURS & CO.,
Petitioners,
v.

ENVIRONMENTAL PROTECTION AGENCY
AND DOUGLAS M. COSTLE, AMINISTRATOR
OF THE ENVIRONMENTAL PROTECTION AGENCY,
Respondents.

[Filed June 29, 1978]

JUDGMENT

Before: PHILLIPS, Chief Judge, EDWARDS and PECK, Circuit Judges.

On petition to review certain regulations promulgated by the Administrator of the Environmental Protection Agency,

These causes came on to be heard on the record of proceedings before the Environment Protection Agency and were argued by counsel.

Upon consideration, it is now ordered, adjudged and decreed by this Court that the petitions in the following cases are remanded to the United States EPA for reconsideration of the employment of Class A coefficients in least stable wind conditions in rural counties:

Nos. 76-2090, 77-1367:

Dayton Power & Light Company
(Adams Count facilities only);

Ohio Power Company
(all facilities);

Columbus & Southern Ohio Electric Co.
(Coshocton County facility only);

Nos. 76-2241, 77-1357:

Austin Powder Company
(all facilities)

It is also ordered, adjudged and decreed that the petitions of Cincinnati Gas & Electric Co. in 76-2090 and 77-1367 and Shell Oil Co. in 76-2232 and 77-1361 are dismissed.

No costs are to be taxed.

ENTERED BY ORDER OF THE COURT.

/s/ John P. Hehman,
Clerk

Issued as Mandate: August 2, 1978 (As to the issues decided in this Court's June 29, 1978 opinion in the following cases: 76-2090, 77-1367, 76-2232, 77-1361, 76-2241, 77-1357 and 76-2278)

Costs: None

UNITED STATES COURT OF APPEALS FOR THE SIXTH CIRCUIT

Nos. 80-3561, 80-3730, 80-3732, 80-3813
77-1367, 76-2090

OHIO POWER COMPANY;
CINCINNATI GAS & ELECTRIC COMPANY, *et al.*,
Petitioners,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
and ANNE M. GORSUCH, Administrator,
Respondents.

THE COMMONWEALTH OF PENNSYLVANIA, (80-3813),
Petitioner,

v.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
and ANNE M. GORSUCH, Administrator,
Respondents,

OHIO POWER COMPANY and
COLUMBUS AND SOUTHERN OHIO ELECTRIC COMPANY,
Intervenors.

[Filed Mar. 22, 1984]

Before: EDWARDS, Circuit Judge; PHILLIPS and PECK, Senior Circuit Judges.

On PETITION TO REVIEW a final action of the Administrator of the United States Environmental Protection Agency.

THIS CAUSE came on to be heard on the transcript of record from the said Agency and was argued by counsel.

ON CONSIDERATION WHEREOF, It is now here ordered and adjudged by this court that the instant petitions for review of the decision of the said Agency in this cause be and the same are hereby dismissed.

ENTERED BY ORDER OF THE COURT
JOHN P. HEHMAN, Clerk

/s/ John P. Hehman
Clerk

Issued as Mandate: May 16, 1984
Costs: (Awarded to the respondent)

Fees:	None
Printing:	$470.00
Total:	$470.00

UNITED STATES COURT OF APPEALS
FOR THE SIXTH CIRCUIT

No. 80-3561

and Consolidated Cases

OHIO POWER COMPANY,
Petitioners,
vs.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondents.

[Filed May 8, 1984]

ORDER

Before: EDWARDS, Circuit Judge; PHILLIPS and PECK, Senior Circuit Judges.

On receipt and consideration of a petition for rehearing, which was filed with the court as a petition for rehearing en banc; and

No active judge of the court having moved for rehearing en banc, and petition having thus been referred to the panel which heard the case and decided same; and

On careful review of said petition for rehearing by said panel, the court having noted no argument or issue of significance which had not been carefully considered in advance of its published opinion; and

Finding no reason to deviate from the reasoning and conclusions of said opinion,

Said motion for rehearing is hereby denied.

ENTERED BY ORDER OF THE COURT

/s/ John P. Hehman
Clerk

U.S. CONSTITUTION

ARTICLE III—THE JUDICIARY

SECTION 2

Section 2. The Judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties made, or which shall be made, under their Authority;—to all Cases affecting Ambassadors, other public Ministers and Consuls;—to all Cases of admiralty and maritime Jurisdiction;—to Controversies to which the United States shall be a Party;—to Controversies between two or more States;—between a State and Citizens of another State; —between Citizens of different States,—between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

In all Cases affecting Ambassadors, other public Ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction. In all the other Cases before mentioned, the supreme Court shall have appellate Jurisdiction, both as to Law and Fact, with such Exceptions, and under such Regulations as the Congress shall make.

The Trial of all Crimes, except in Cases of Impeachment, shall be by Jury; and such Trial shall be held in the State where the said Crimes shall have been committed; but when not committed within any State, the Trial shall be at such Place or Places as the Congress may by Law have directed.

ADMINISTRATIVE PROCEDURE ACT

§ 706. Scope of review

To the extent necessary to decision and when presented, the reviewing court shall decide all relevant questions of law, interpret constitutional and statutory provisions, and determine the meaning or applicability of the terms of an agency action. The reviewing court shall—

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

In making the foregoing determinations, the court shall review the whole record or those parts of it cited by a party, and due account shall be taken of the rule of prejudicial error.

Pub.L. 89-554, Sept. 6, 1966, 80 Stat. 393.

(d) Rulemaking

(1) This subsection applies to—

(A) the promulgation or revision of any national ambient air quality standard under section 7409 of this title,

(B) the promulgation or revision of an implementation plan by the Administrator under section 7410(c) of this title,

(C) the promulgation or revision of any standard of performance under section 7411 of this title or omission standard under section 7412 of this title.

(D) the promulgation or revision of any regulation pertaining to any fuel or fuel additive under section 7545 of this title.

(E) the promulgation or revision of any aircraft emission standard under section 7571 of this title,

(F) promulgation or revision of regulations pertaining to orders for coal conversation under section 7413(d)(5) of this title (but not including orders granting or denying any such orders).

(G) promulgation or revision of regulations pertaining to primary nonferrous smelter orders under section 7419 of this title (but not including the granting or denying of any such order),

(H) promulgation or revision of regulations under part B of subchapter I of this chapter (relating to stratosphere and ozone protection),

(I) promulgation or revision of regulations under part C of subchapter I of this chapter (relating to prevention of significant deterioration of air quality and protection of visibility),

(J) promulgation or revision of regulations under section 7521 of this title and test procedures for new motor vehicles or engines under section 7525 of this title and the revision of a standard under section 7521(a)(3) of this title,

(K) promulgation or revision of regulations for noncompliance penalties under section 7420 of this title,

(L) promulgation or revision of any regulations promulgated under section 7541 of this title (relating to warranties and compliance by vehicles in actual use),

(M) action of the Administrator under section 7426 of this title (relating to interstate pollution abatement), and

(N) such other actions as the Administrator may determine.

The provisions of section 553 through 557 and section 706 of title 5 shall not, except as expressly provided in this subsection, apply to actions to which this subsection applies. This subsection shall not apply in the case of any rule or circumstance, referred to in subparagraphs (A) or (B) of subsection 553(b) of title 5.

(2) Not later than the date of proposal of any action to which this subsection applies, the Administrator shall establish a rulemaking docket for such action (hereinafter in this subsection referred to as a "rule"). Whenever a rule applies only within a particular State, a second (identical) docket shall be simultaneously established in the appropriate regional office of the Environmental Protection Agency.

(3) In the case of any rule to which this subsection applies, notice of proposed rulemaking shall be published in the Federal Register, as provided under section 553(b) of title 5, shall be accompanied by a statement

of its basis and purpose and shall specify the period available for public comment (hereinafter referred to as the "comment period"). The notice of proposed rulemaking shall also state the docket number, the location or locations of the docket, and the times it will be open to public inspection. The statement of basis and purpose shall include a summary of—

(A) the factual data on which the proposed rule is based;

(B) the methodology used in obtaining the data and in analyzing the data; and

(C) the major legal interpretations and policy considerations underlying the proposed rule.

The statement shall also set forth or summarize and provide a reference to any pertinent findings, recommendations, and comments by the Scientific Review Committee established under section 7409(d) of this title and the National Academy of Sciences, and, if the proposal differs in any important respect from any of these recommendations, an explanation of the reasons for such differences. All data, information, and documents referred to in this paragraph on which the proposed rule relies shall be included in the docket on the date of publication of the proposed rule.

(4) (A) The rulemaking docket required under paragraph (2) shall be open for inspection by the public at reasonable times specified in the notice of proposed rulemaking. Any person may copy documents contained in the docket. The Administrator shall provide copying facilities which may be used at the expense of the person seeking copies, but the Administrator may waive or reduce such expenses in such instances as the public interest requires. Any person may request copies by mail if the person pays the expenses, including personal costs to do the copying.

(B) (i) Promptly upon receipt by the agency, all written comments and documentary information on the proposed rule received from any person for inclusion in the docket during the comment period shall be placed in the docket. The transcript of public hearings, if any, on the proposed rule shall also be included in the docket promptly upon receipt from the person who transcribed such hearings. All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the rulemaking shall be placed in the docket as soon as possible after their availability.

(ii) The drafts of proposed rules submitted by the Administrator to the Office of Management and Budget for any interagency review process prior to proposal of any such rule, all documents accompanying such drafts, and all written comments thereon by other agencies and all written responses to such written comments by the Administrator shall be placed in the docket no later than the date of proposal of the rule. The drafts of the final rule submitted for such review process prior to promulgation and all such written comments thereon, all documents accompanying such drafts, and written responses thereto shall be placed in the docket no later than the date of promulgation.

(5) In promulgating a rule to which this subsection applies (i) the Administrator shall allow any person to submit written comments, data, or documentary information; (ii) the Administrator shall give interested persons an opportunity for the oral presentation of data, views, or arguments, in addition to an opportunity to make written submissions; (iii) a transcript shall be kept of any oral presentation; and (iv) the Administrator shall keep the record of such proceeding open for thirty days after completion of the proceeding to provide an opportunity for submission of rebuttal and supplementary information.

(6) (A) The promulgated rule shall be accompanied by (i) a statement of basis and purpose like that referred to in paragraph (3) with respect to a proposed rule and (ii) an explanation of the reasons for any major changes in the promulgated rule from the proposed rule.

(B) The promulgated rule shall also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.

(C) The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.

(7) (A) The record for judicial review shall consist exclusively of the material referred to in paragraph (3), clause (i) of paragraph (4)(B), and subparagraphs (A) and (B) of paragraph (6).

(B) Only an objection to a rule or procedure which was raised with reasonable specificity during the period for public comment (including any public hearing) may be raised during judicial review. If the person raising an objection can demonstrate to the Administrator that it was impracticable to raise such objection within such time or if the grounds for such objection arose after the period for public comment (but within the time specified for judicial review) and if such objection is of central relevance to the outcome of the rule, the Administrator shall convene a proceeding for reconsideration of the rule and provide the same procedural rights as would have been afforded had the information been available at the time the rule was proposed. If the Administrator refuses to convene such a proceeding, such person may seek review of such refusal in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section). Such reconsideration shall not postpone the effectiveness of the rule. The effectiveness of the rule may be stayed during such reconsideration, however, by the Administrator or the court for a period not to exceed three months.

(8) The sole forum for challenging procedural determinations made by the Administrator under this subsection shall be in the United States court of appeals for the appropriate circuit (as provided in subsection (b) of this section) at the time of the substantive review of the rule. No interlocutory appeals shall be permitted with respect to such procedural determinations. In reviewing alleged procedural errors, the court may invalidate the rule only if the errors were so serious and related to matters of such central relevance to the rule that there is a substantial likelihood that the rule would have been significantly changed if such errors had not been made.

(9) In the case of review of any action of the Administrator to which this subsection applies, the court may reverse any such action found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; or

(D) without observance of procedure required by law, if (i) such failure to observe such procedure is arbitrary or capricious, (ii) the requirement of paragraph (7)(B) has been met, and (iii) the condition of the last sentence of paragraph (8) is met.

(10) Each statutory deadline for promulgation of rules to which this subsection applies which requires promulgation less than six months after date of proposal

may be extended to not more than six months after date of proposal by the Administrator upon a determination that such extension is necessary to afford the public, and the agency, adequate opportunity to carry out the purposes of this subsection.

(11) The requirements of this subsection shall take effect with respect to any rule the prosposal of which occurs after ninety days after August 7, 1977.